

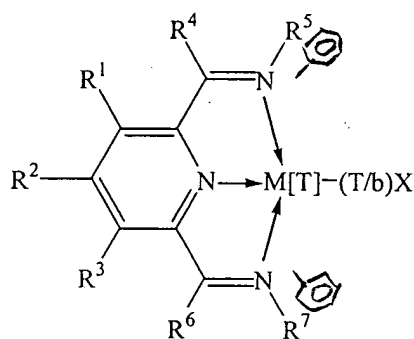
09/272,880

Mark Payne

Catalyst Preparation Method

We claim:

1. Process for the preparation of a supported catalyst, comprising the steps of
 - a) contacting a support material containing 1-10 % water with a trialkylaluminum compound; and
 - b) contacting the resulting material with a complex of the formula (I)



Formula (I)

wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X represents an atom or group covalently or ionically bonded to the transition metal M; T is the oxidation state of the transition metal M and b is the valency of the atom or group X; R¹ to R⁷ are each independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, substituted heterohydrocarbyl or SiR'₃ where each R' is independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, substituted heterohydrocarbyl.

2. Process according to claim 1, wherein the support material is silica, alumina, aluminosilicate or crosslinked polystyrene/polyvinylalcohol.
3. Process according to claim 1, wherein the support material is first dehydrated

before being contacted with a known amount of water.

4. Process according to claim 1, wherein the support material is contacted with a solution of trialkylaluminium in an amount sufficient to provide a mole ratio of trialkylaluminium to water of from 3:1 to 1:2, preferably from 1.2:1 to 0.9:1.

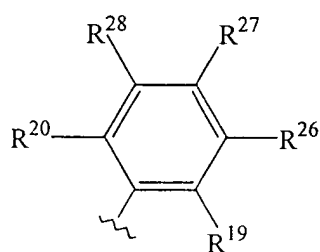
5. Process according to claim 4 wherein the hydrated support is contacted with the trialkylaluminium in the presence of a solvent by adding the trialkylaluminium to the hydrated support.

6. Process according to claim 4 wherein the hydrated support is contacted with the trialkylaluminium in the presence of a solvent which comprises an inert hydrocarbon, preferably isobutane, butane, pentane, hexane, heptane, octane, cyclohexane, methylcyclohexane, toluene or xylene.

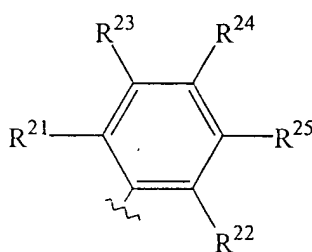
7. Process according to claim 1 wherein the trialkylaluminium compound is trimethylaluminium (TMA), triethylaluminium (TEA), tri-isobutylaluminium (TIBA) or tri-n-octylaluminium.

8. Process according to claim 1 wherein the trialkylaluminium solution and support material mixture is contacted with the transition metal complex of formula (I) in an amount sufficient to provide an aluminium to transition metal ratio of from 1000:1 to 1:1, preferably from 300:1 to 10:1, most preferably from 150:1 to 30:1.

9. Process according to claim 1 wherein in the transition metal complex of formula (I), R^5 is represented by the group "P" and R^7 is represented by the group "Q" as follows:



Group P



Group Q

wherein R^{19} to R^{28} are independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; when any two or more of R^1 to R^4 , R^6 and R^{19} to R^{28} are hydrocarbyl, substituted hydrocarbyl,

heterohydrocarbyl or substituted heterohydrocarbyl, said two or more can be linked to form one or more cyclic substituents.

10. Process according to claim 1 wherein the transition metal complex of formula (I) comprises one or more of

- 5 2,6-diacetylpyridinebis(2,6-diisopropylanil)FeCl₂
- 2,6-diacetylpyridinebis(2,6-diisopropylanil)MnCl₂
- 2,6-diacetylpyridinebis(2,6-diisopropylanil)CoCl₂
- 2,6-diacetylpyridinebis(2-tert.-butylanil)FeCl₂
- 2,6-diacetylpyridinebis(2,3-dimethylanil)FeCl₂
- 10 2,6-diacetylpyridinebis(2-methylanil)FeCl₂
- 2,6-diacetylpyridinebis(2,4-dimethylanil)FeCl₂
- 2,6-diacetylpyridinebis(2,6-dimethylanil)FeCl₂
- 2,6-diacetylpyridinebis(2,4,6 trimethyl anil)FeCl₂
- 2,6-diacetylpyridinebis(2,6-dimethyl 4-t-butyl anil)FeCl₂
- 15 2,6-dialdiminepyridinebis(2,6-dimethylanil)FeCl₂
- 2,6-dialdiminepyridinebis(2,6-diethylanil)FeCl₂
- 2,6-dialdiminepyridinebis(2,6-diisopropylanil)FeCl₂
- 2,6-dialdiminepyridinebis(1-naphthil)FeCl₂ or
- 2,6-bis(1,1-diphenylhydrazone)pyridine.FeCl₂.

=> file reg

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L1 FILE 'LREGISTRY' ENTERED AT 16:39:32 ON 22 JUL 2003
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L8 1130 SEA L7 AND 1/AL

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L10 1793 SEA L3
L11 25774 SEA L8
L12 26038 SEA L7
L13 QUE CATALY? OR CAT#
L14 69 SEA L9 AND (L11 OR L12)
L15 68 SEA L14 AND L13

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L18 393 SEA SUB=L3 SSS FUL L16
SAV L18 LAV880B/A

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L20 63 SEA L19 AND (L11 OR L12)
L21 63 SEA L19 AND L11
L22 62 SEA L21 AND L13

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E STYRENE/CN
L25 1 SEA STYRENE/CN
L26 64594 SEA 100-42-5/CRN
E VINYL ALCOHOL/CN
L27 1 SEA "VINYL ALCOHOL"/CN
L28 3910 SEA 557-75-5/CRN
L29 152 SEA L26 AND L28
L30 4 SEA L29 AND 2/NC
E POLYSTYRENE/CN
L31 1 SEA POLYSTYRENE/CN
E POLYVINYL ALCOHOL/CN
E POLYVINYLALCOHOL/CN
E PVA/CN
L32 2 SEA PVA/CN
L33 1 SEA 9002-89-5

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L36 446363 SEA L24 OR (ALUMINUM# OR AL) (W) (OXIDE# OR TRIOXIDE#) OR
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L37 0 SEA L15 AND L34
L38 24 SEA L15 AND L35
L39 9 SEA L15 AND L36
L40 24 SEA L39 OR L38
L41 44 SEA (L15 OR L22) NOT L40

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L43 392465 SEA (CATALY? OR CAT#)/TI
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L45 59 SEA L42 AND (L43 OR L13)
SEL L45 1-59 RN

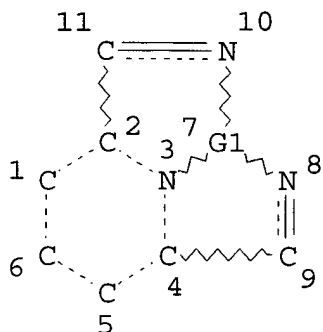
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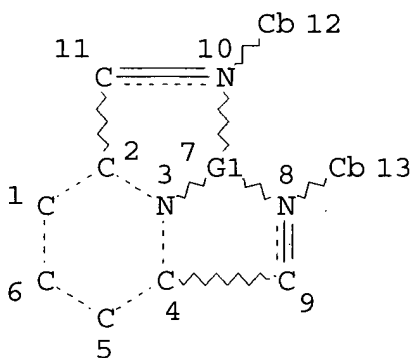
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
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SEARCH TIME: 00.00.01

393 ANSWERS

=> file hca

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=> d l54 1-9 cbib abs hitstr hitind

L54 ANSWER 1 OF 9 HCA COPYRIGHT 2003 ACS on STN

135:181475 Polyolefin blends containing polyolefins prepared using late transition metal **catalysts**. Christie, Susan Katherine; Samson, John Norman Reid; Reed, Warren (Bp Chemicals Limited, UK). Eur. Pat. Appl. EP 1125979 A1 20010822, 16 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-301163 20010209. PRIORITY: GB 2000-3363 20000214.

AB The polymer blend comprises .gtoreq.1 polymer made using a late transition metal **catalyst**, and .gtoreq.1 polyolefins made using a free radical process or polymd. using a Phillips type (chromium oxide) **catalyst**, a metallocene **catalyst**, or a Ziegler-Natta **catalyst**. Thus, 70% polyethylene prepd. by polymn. using EP 30 (**silica** supported Phillips **catalyst**) as **catalyst** was mixed with 30% polyethylene prepd. by polymn. using 2,6-diacetylpyridinebis(2,4,6 trimethylanil)FeCl₂ supported on **silica** as **catalyst** and other additives, and pelletized, showing melt flow rate (2.16 kg) 0.30 g/10 mim and annealed d. 954.0 kg/m³.

IT 100-99-2, Tri-isobutylaluminum, uses 207129-93-9

207129-95-1 207129-96-2 210537-35-2

210768-87-9 221391-06-6 221391-08-8

221391-12-4 221391-13-5 221391-15-7

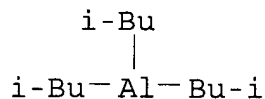
261787-81-9 308359-84-4 308359-85-5

308359-86-6

(polyolefin blends contg. polyolefins prepd. using late transition metal **catalysts**)

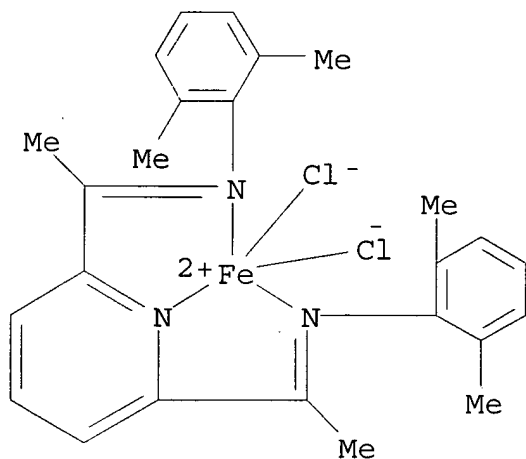
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CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



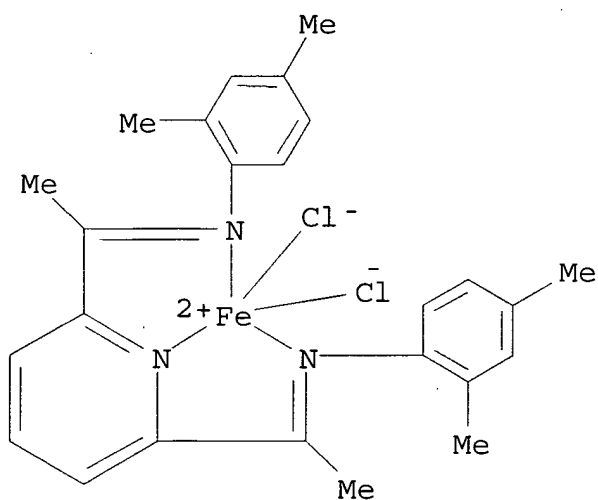
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



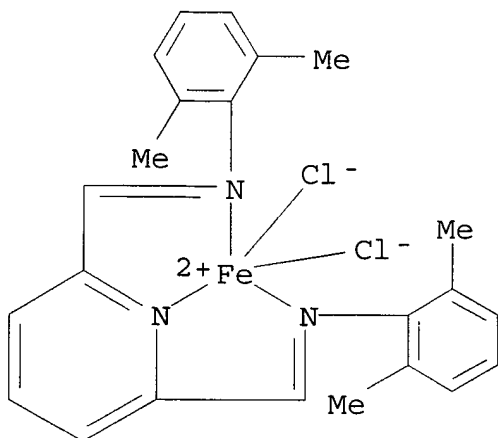
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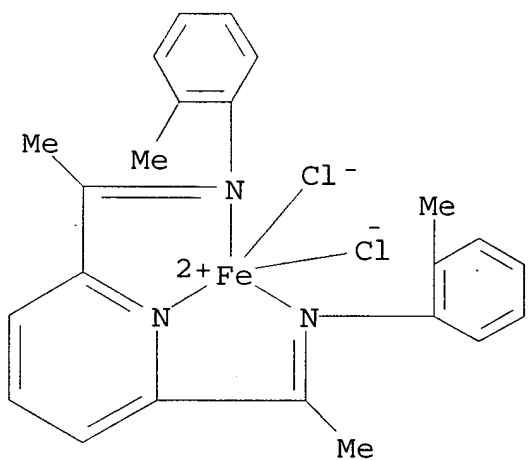
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



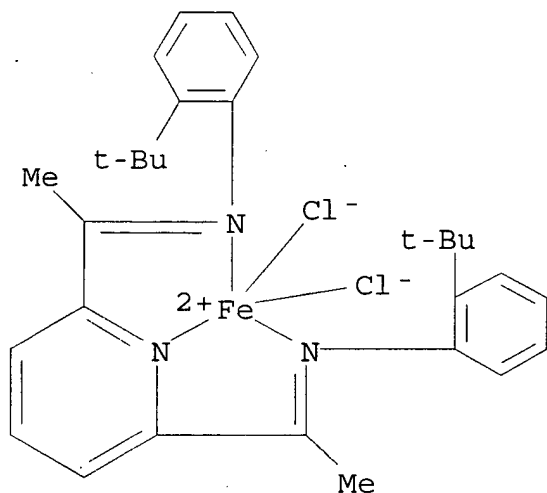
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)bis(ethylidynenitril o-κN)]bis[2-methylbenzenamine-κN]]- (9CI) (CA INDEX NAME)



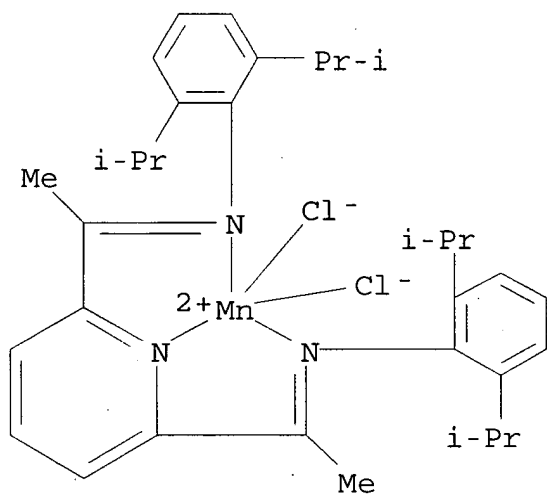
RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethylidynenitril]bis[2-(1,1-dimethylethyl)benzenamine-κN]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



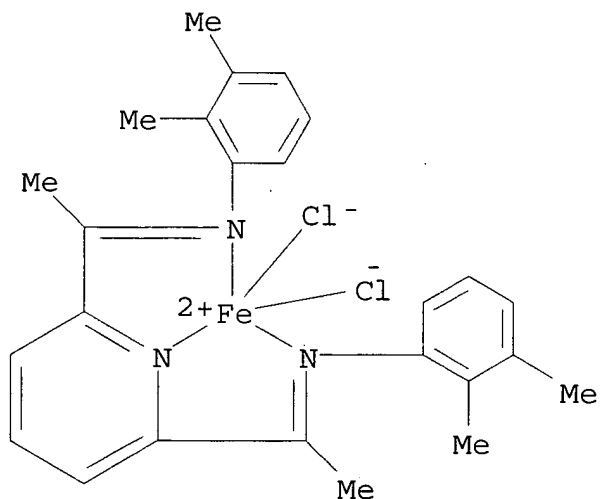
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-
.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-
.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



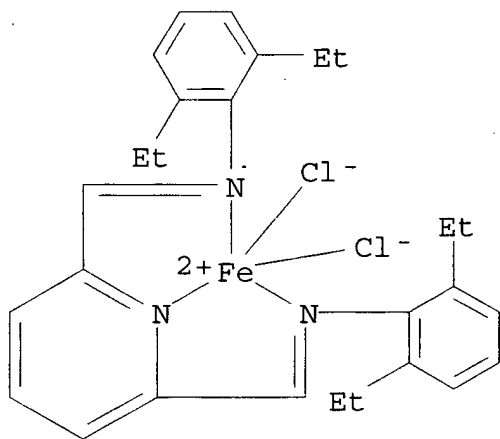
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-
.kappa.N)diethylidyne]bis[2,3-
dimethylbenzenamine-
.kappa.N]]- (9CI) (CA INDEX NAME)



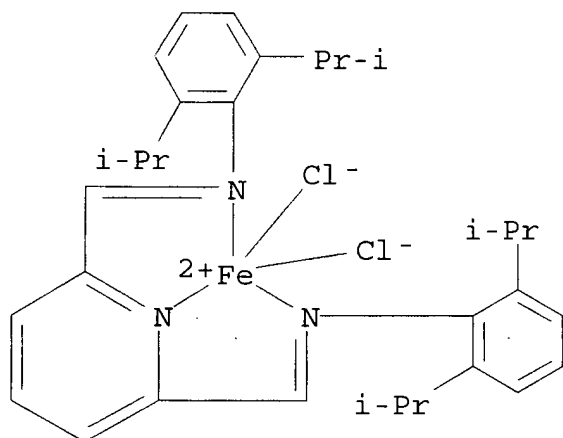
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



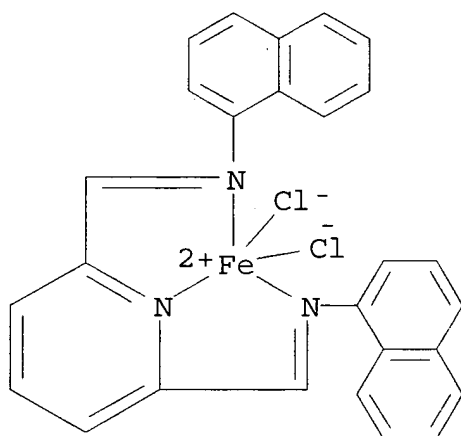
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



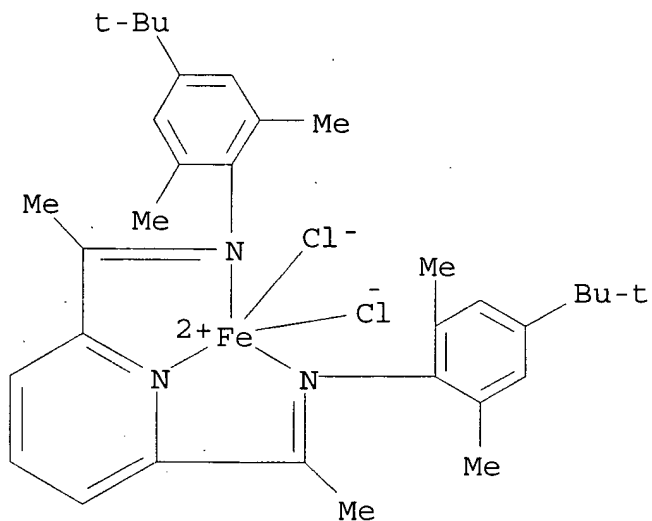
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CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[1-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



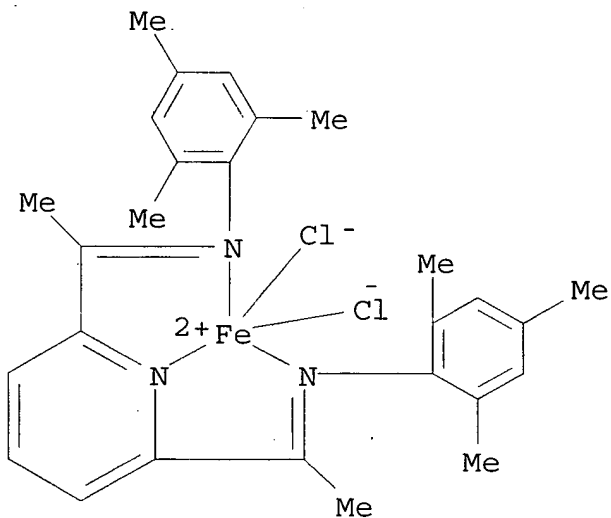
RN 261787-81-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



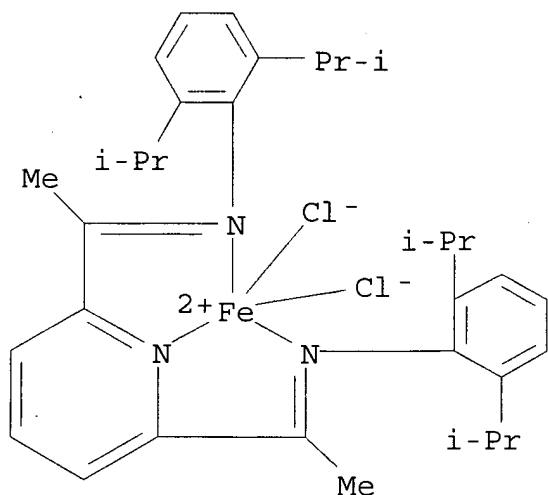
RN 308359-84-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9Cl) (CA INDEX NAME)

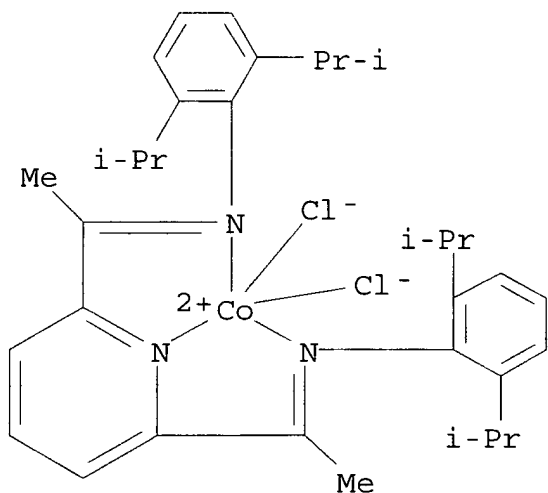


RN 308359-85-5 HCA

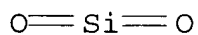
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9Cl) (CA INDEX NAME)



RN 308359-86-6 HCA
 CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-
 .kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-
 .kappa.N]]- (9CI) (CA INDEX NAME)



IT 7631-86-9, silica, uses
 (support; polyolefin blends contg. polyolefins prepd. using late
 transition metal **catalysts**)
 RN 7631-86-9 HCA
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L023-10

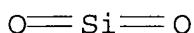
- ICS C08L023-04; C08F004-70
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 67
ST polyolefin transition metal **catalyst** blend; Phillips
catalyst polyethylene blend; metallocene **catalyst**
polyolefin blend; Ziegler Natta **catalyst** polyolefin blend
IT Polymerization **catalysts**
(Ziegler-Natta; polyolefin blends contg. polyolefins prepd. using
late transition metal **catalysts**)
IT Polymerization **catalysts**
(metallocene; polyolefin blends contg. polyolefins prepd. using
late transition metal **catalysts**)
IT Polymerization **catalysts**
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT Transition metals, uses
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT Polyolefins
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT Polymer blends
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT 100-99-2, Tri-isobutylaluminum, uses 11118-57-3, Chromium
oxide 13463-67-7, Titanium oxide, uses 207129-93-9
207129-95-1 207129-96-2 209679-83-4, Magnapore
963 210537-35-2 210768-87-9 221391-06-6
221391-08-8 221391-12-4 221391-13-5
221391-15-7 223121-60-6, EP 30X 261787-81-9
308359-84-4 308359-85-5 308359-86-6
339569-49-2
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT 9002-88-4P, Polyethylene
(polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
IT 7631-86-9, silica, uses
(support; polyolefin blends contg. polyolefins prepd. using late
transition metal **catalysts**)
- L54 ANSWER 2 OF 9 HCA COPYRIGHT 2003 ACS on STN
135:181095 Manufacture of supported olefin polymerization
catalysts containing transition metal-nitrogen tridentate
ligand complex. Payne, Mark John (BP Chemicals Ltd., UK). Jpn.
Kokai Tokkyo Koho JP 2001226424 A2 20010821, 11 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 2001-34799 20010213. PRIORITY: GB
2000-3356 20000214.
- AB The **catalysts**, which are cheap and have uniform activity,
are prepd. by steps of: (1) contacting a support contg. 1-10% water,
e.g., silica, alumina, aluminosilicate or
crosslinked polystyrene or poly(vinyl alc.), with trialkylaluminum

compd., and (2) contacting the product from step 1 with a transition metal-nitrogen tridentate ligand complex. Thus, reacting 2.0 g 2,6-diacetylpyridinebis(2,4,6-trimethylanil) with 0.638 g iron dichloride in n-butanol at 80.degree. for 60 min and at room temp. for 16 h gave 2.56 g 2,6-diacetylpyridinebis(2,4,6-trimethylanil)iron dichloride, 0.0262 g of which (in dried MePh) was mixed with **silica**/MAO slurry prepd. in situ from 2 g ES 70X **silica** and 0.00494 mol trimethylaluminum to give a title **catalyst** with 0.12% Fe and 12.5% MAO, which was used for ethylene slurry polymn. with addnl. 3 mL 1 M triisobutylaluminum to give polyethylene with **catalyst** activity 5778 g/mmol-Fe/h.cntdot.Bar.

IT 7631-86-9, ES 70X, reactions
(ES 70X, **catalyst** support; in manuf. of supported olefin polymn. **catalysts** contg. iron-nitrogen tridentate ligand complex)

RN 7631-86-9 HCA

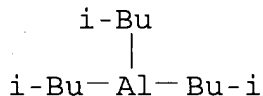
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 100-99-2, Triisobutylaluminum, uses
(cocatalyst; manuf. of supported olefin polymn. **catalysts** contg. iron-nitrogen tridentate ligand complex)

RN 100-99-2 HCA

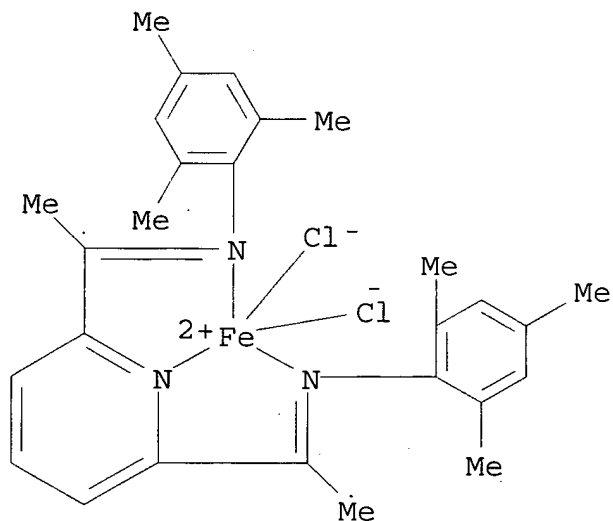
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



IT 308359-84-4P
(manuf. of supported olefin polymn. **catalysts** contg. iron-nitrogen tridentate ligand complex)

RN 308359-84-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

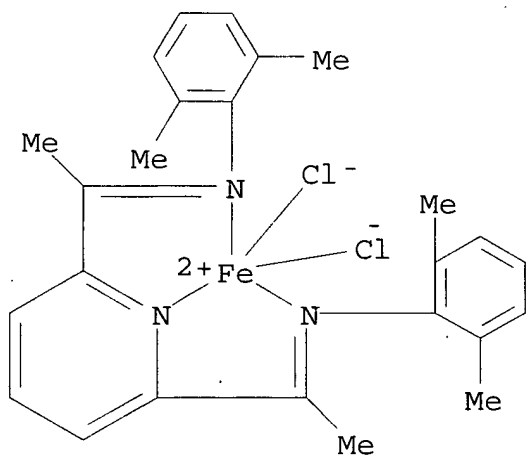


IT 207129-93-9 207129-95-1 207129-96-2
 210537-35-2 210768-87-9 221391-06-6
 221391-08-8 221391-12-4 221391-13-5
 221391-15-7 261787-81-9 308359-85-5
 308359-86-6 355118-93-3

(manuf. of supported olefin polymn. **catalysts** contg.
 transition metal-nitrogen tridentate ligand complex)

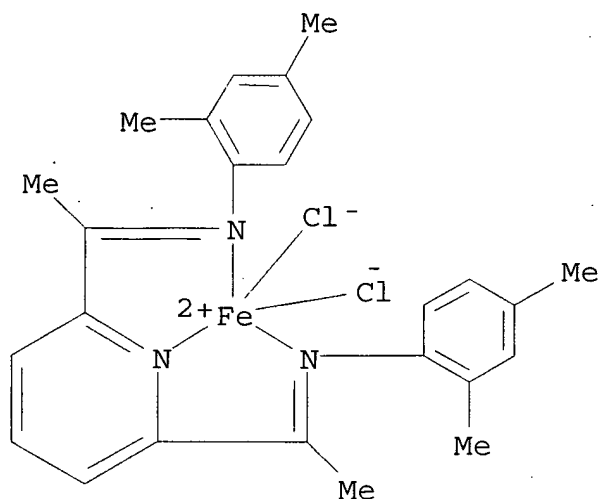
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



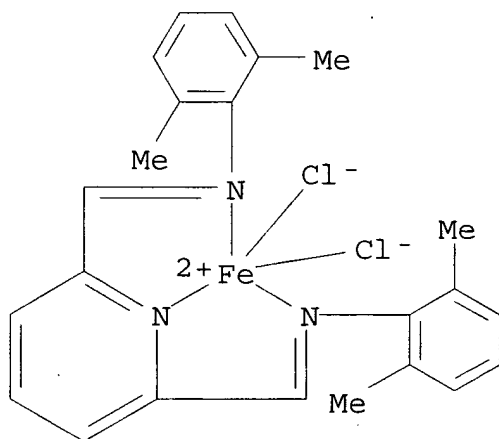
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



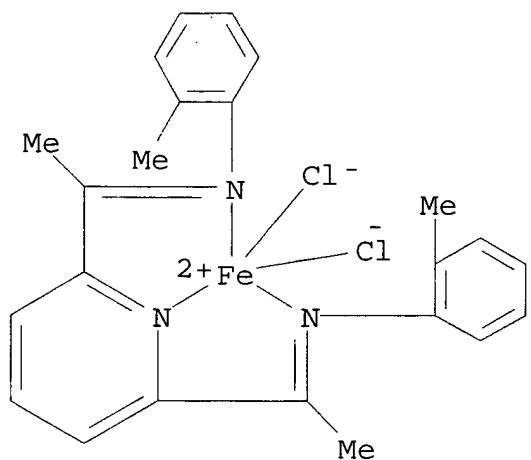
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethyldiyl]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



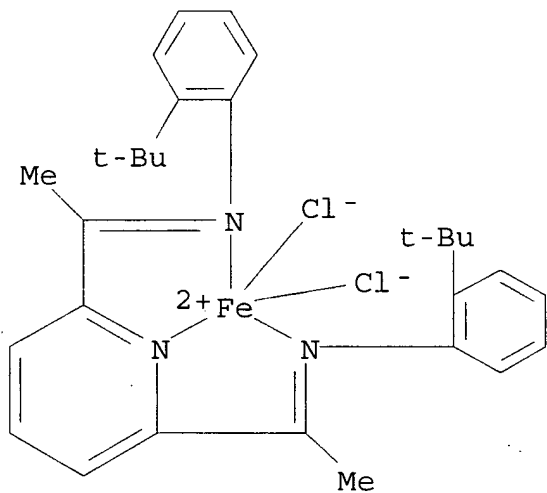
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitril o-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



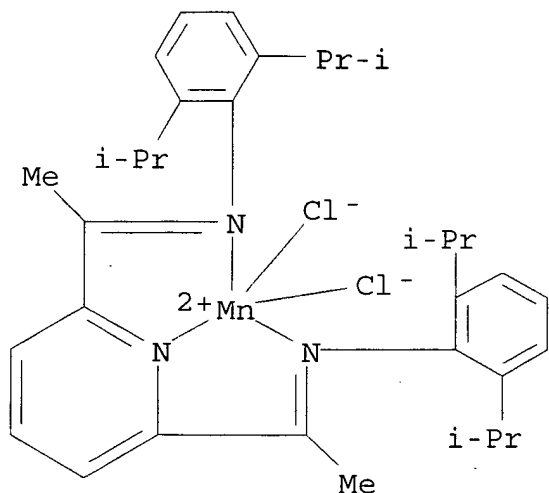
RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



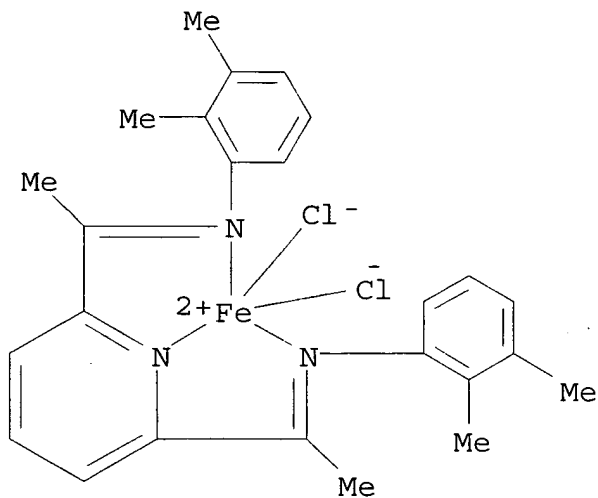
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



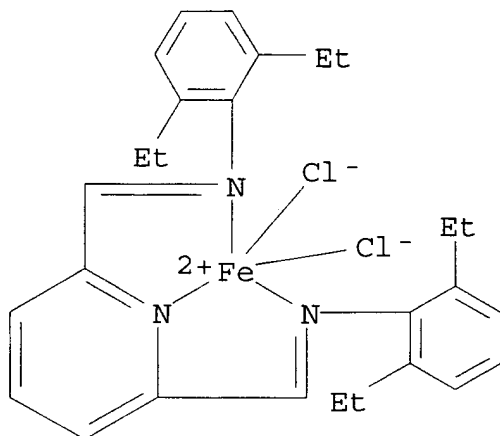
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,3-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



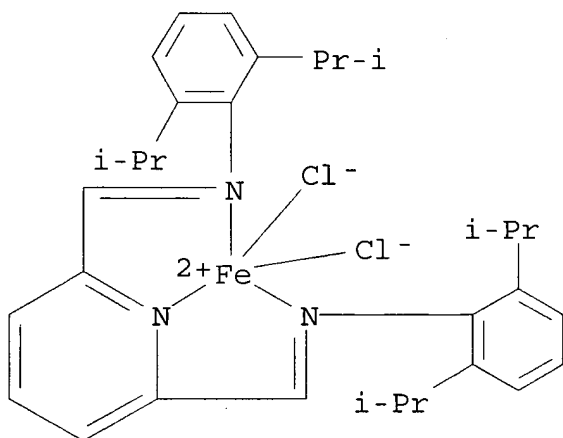
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



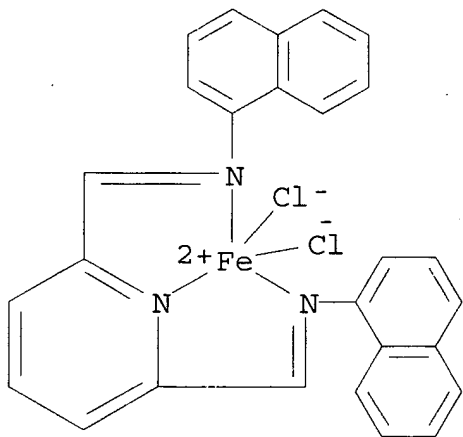
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



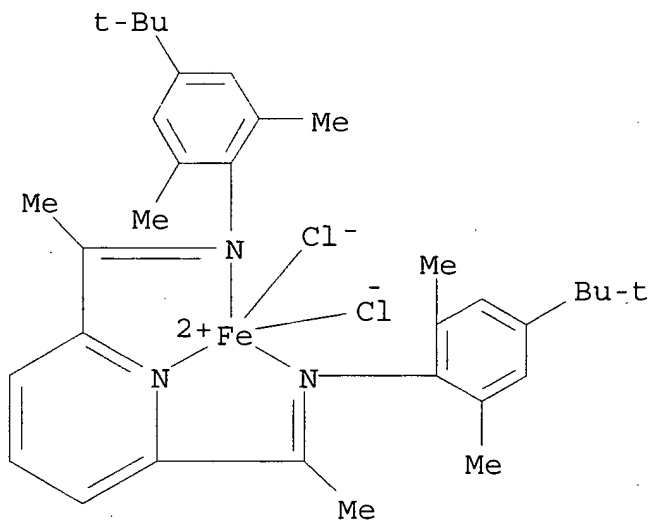
RN 221391-15-7 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[1-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME).



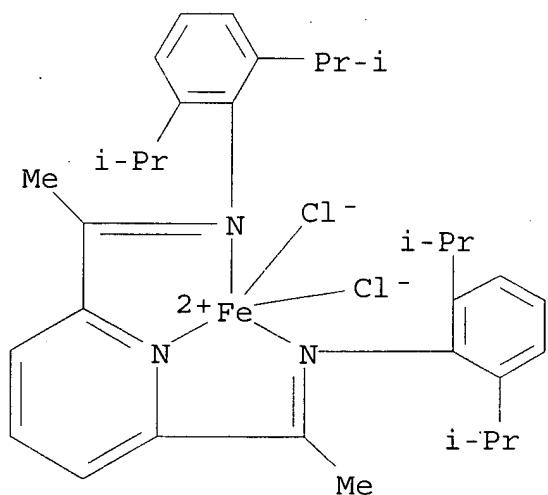
RN 261787-81-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethynyl]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-κN]]- (9CI) (CA INDEX NAME)

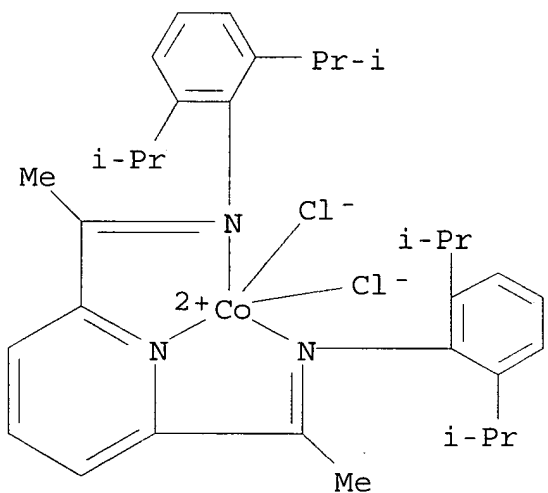


RN 308359-85-5 HCA

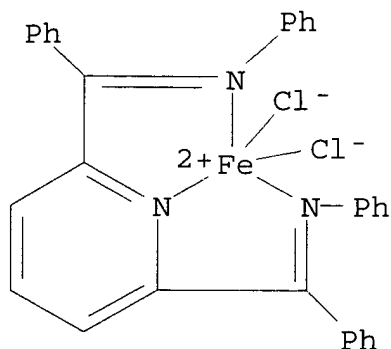
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethynyl]bis[2,6-bis(1-methylethyl)benzenamine-κN]]- (9CI) (CA INDEX NAME)



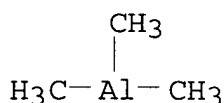
RN 308359-86-6 HCA
 CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-
 .kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-
 .kappa.N]]- (9CI) (CA INDEX NAME)



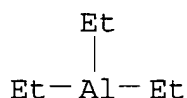
RN 355118-93-3 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(phenylmethyldyn
 e)]bis[benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, reactions
(reactant for cocatalyst; in manuf. of supported olefin polymn.
catalysts contg. iron-nitrogen tridentate ligand complex)
RN 75-24-1 HCA
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 97-93-8 HCA
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



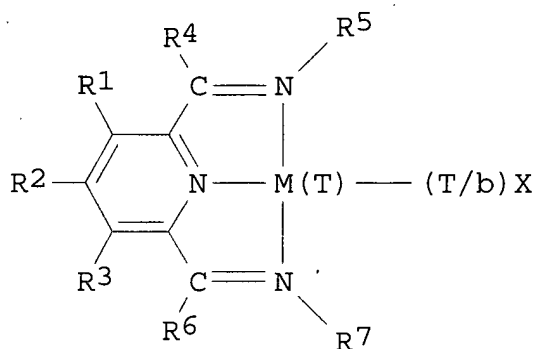
IC ICM C08F004-70
ICS C08F010-00
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
ST supported transition metal nitrogen tridentate ligand complex manuf;
iron complex olefin ethylene polymn **catalyst** manuf
IT Polymerization **catalysts**
(coordination; manuf. of supported olefin polymn.
catalysts contg. transition metal-nitrogen tridentate
ligand complex)
IT Transition metal complexes
(nitrogen heterocyclic; manuf. of supported olefin polymn.
catalysts contg. transition metal-nitrogen tridentate
ligand complex)
IT Heterocyclic compounds
(nitrogen, transition metal complexes; manuf. of supported olefin
polymn. **catalysts** contg. transition metal-nitrogen
tridentate ligand complex)

- IT Polymerization **catalysts**
(supported; manuf. of supported olefin polymn. **catalysts**
contg. transition metal-nitrogen tridentate ligand complex)
- IT 7631-86-9, ES 70X, reactions
(ES 70X, **catalyst** support; in manuf. of supported
olefin polymn. **catalysts** contg. iron-nitrogen
tridentate ligand complex)
- IT 210155-39-8P
(**catalyst** intermediate; in manuf. of supported olefin
polymn. **catalysts** contg. iron-nitrogen tridentate
ligand complex)
- IT 100-99-2, Triisobutylaluminum, uses
(cocatalyst; manuf. of supported olefin polymn. **catalysts**
contg. iron-nitrogen tridentate ligand complex)
- IT 308359-84-4P
(manuf. of supported olefin polymn. **catalysts** contg.
iron-nitrogen tridentate ligand complex)
- IT 9002-88-4P, Polyethylene
(manuf. of supported olefin polymn. **catalysts** contg.
iron-nitrogen tridentate ligand complex)
- IT 207129-93-9 207129-95-1 207129-96-2
210537-35-2 210768-87-9 221391-06-6
221391-08-8 221391-12-4 221391-13-5
221391-15-7 261787-81-9 308359-85-5
308359-86-6 355118-93-3
(manuf. of supported olefin polymn. **catalysts** contg.
transition metal-nitrogen tridentate ligand complex)
- IT 88-05-1, 2,4,6-Trimethylaniline 1129-30-2, 2,6-Diacetylpyridine
7758-94-3, Iron dichloride
(reactant for **catalyst**; in manuf. of supported olefin
polymn. **catalysts** contg. iron-nitrogen tridentate
ligand complex)
- IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, reactions
(reactant for cocatalyst; in manuf. of supported olefin polymn.
catalysts contg. iron-nitrogen tridentate ligand complex)

L54 ANSWER 3 OF 9 HCA COPYRIGHT 2003 ACS on STN

135:20096 Polymersation **catalyst** for olefins. Behue, Patrick
Daniel Yves; Christie, Susan Katherine; Gil, Marianne; Samson, John
Norman Reid (BP Chemicals Limited, UK). PCT Int. Appl. WO
2001040323 A1 20010607, 48 pp. DESIGNATED STATES: W: AE, AG, AL,
AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP,
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES,
FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD,
TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2000-GB4578
20001130. PRIORITY: GB 1999-28679 19991203.

GI



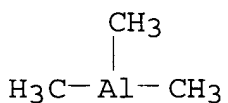
I

AB The **catalyst** comprises (1) a formula I wherein M is Fe[II], Fe[III], Co[I], Co [II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III], Ru[IV], V[II], V[III], V[IV], or V[V], Ti[II], Ti[III] or Ti[IV]; X represents an atom or group covalently or ionically bonded to the transition metal M; T is the oxidn. state of the transition metal M and b is the valency of the atom or group X; R1, R2, R3, R4, R5, R6 and R7 are independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; and when any two or more of R1 - R7 are hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, said two or more can be linked to form one or more cyclic substituents; and optionally (2) an activating quantity of an activator compd. comprising a Lewis acid capable of activating the **catalyst** for olefin polymn.; and then subjecting the resulting polyolefin to crosslinking conditions. Thus, ethylene was polymd. with 2,6-diacetylpyridinebis(2,4,6-tri-Me anil)iron dichloride supported on MAO/**silica** to give a polymer having HLMI (21.6 kg.degree.g/10 min.) 2.0 and annealed d. 956.4 kg/m2.

IT 75-24-1, Trimethylaluminum 97-93-8, Triethylaluminum, uses 100-99-2, Tri-isobutylaluminum, uses 1070-00-4, Tri-n-octylaluminum (polymerisation **catalyst** for olefins)

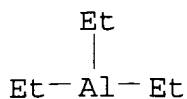
RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

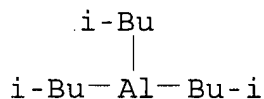


RN 97-93-8 HCA

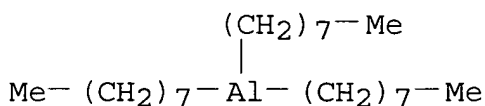
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



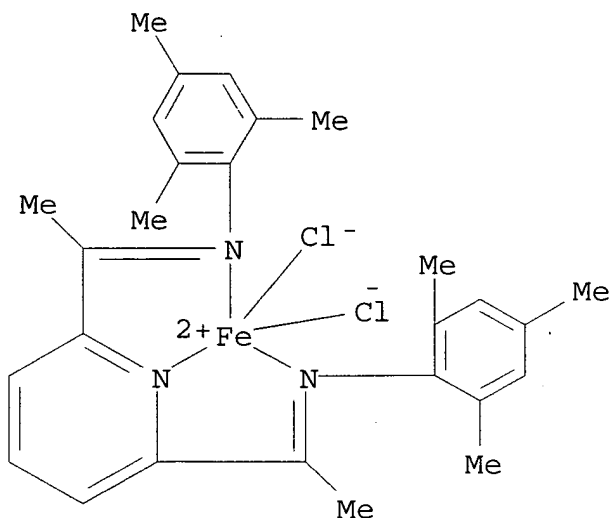
RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



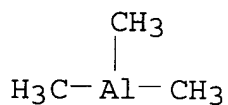
IT 308359-84-4P
 (polymerisation **catalyst** for olefins)
 RN 308359-84-4 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 ST olefin polymn **catalyst**
 IT Aluminoxanes
 (Me; polymerisation **catalyst** for olefins)
 IT Crosslinking agents
 (polymerisation **catalyst** for olefins)

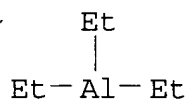
- IT Aluminoxanes
(polymerisation **catalyst** for olefins)
- IT 75-24-1, Trimethylaluminum 78-63-7 80-15-9, Cumene hydroperoxide 80-43-3, Dicumyl peroxide 96-10-6, Diethylaluminum chloride, uses 97-93-8, Triethylaluminum, uses 100-99-2, Tri-isobutylaluminum, uses 110-05-4, Di-tert-butyl peroxide 917-65-7, Methylaluminum dichloride 1068-27-5 1070-00-4, Tri-n-octylaluminum 1184-58-3, dimethylaluminum chloride 3457-61-2, tert-Butyl cumyl peroxide 12075-68-2, Ethylaluminum sesquichloride 12542-85-7, Methylaluminum sesquichloride 25155-25-3, Bis[1-(tert-butyldioxy)-1-methylethyl]benzene
(polymerisation **catalyst** for olefins)
- IT 308359-84-4P
(polymerisation **catalyst** for olefins)
- IT 9002-88-4P, Polyethylene
(polymerisation **catalyst** for olefins)
- IT 210155-39-8P
(polymerisation **catalyst** for olefins)
- IT 1129-30-2
(polymerisation **catalyst** for olefins)
- L54 ANSWER 4 OF 9 HCA COPYRIGHT 2003 ACS on STN
- 134:367363 Olefin polymerization **catalyst** with titanium- or aluminum-impregnated supports. Speakman, John Gabriel (Bp Chemicals Ltd., UK). Eur. Pat. Appl. EP 1099714 A1 20010516, 19 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-309268 20001020. PRIORITY: EP 1999-430028 19991112; EP 1999-430029 19991112; GB 2000-1467 20000121; GB 2000-1468 20000121.
- AB A **catalyst** for the polymn. and copolymn. of .alpha.-olefins comprises (1) a late transition metal complex (2) optionally an activating quantity of an activator compd., and (3) a support which has been impregnated with titanium or aluminum, and calcined at 200-1000.degree., the calcining being after impregnation in the case of aluminum. A **catalyst** was prepd. from a silica support impregnated with Tilcom BIP and a complex of 2,6-diacetylpyridinebis(2,4,6-trimethylphenyl amine) with iron(II) dichloride. Ethylene was polymd. with the above **catalyst** in the presence of Me aluminoxane.
- IT 75-24-1, Trimethyl Aluminum 97-93-8, Triethyl alu-minium, uses 100-99-2, Triisobutyl Aluminum, uses 1070-00-4, Tri-n-octylAluminum 207129-93-9 207129-95-1 207129-96-2 210537-35-2 210768-87-9 221391-06-6 221391-08-8 221391-12-4 221391-13-5 221391-15-7 261787-81-9 308359-84-4 308359-85-5 308359-86-6
(olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



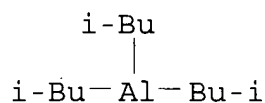
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



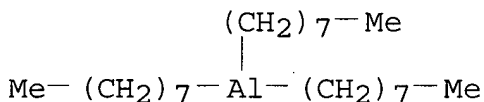
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



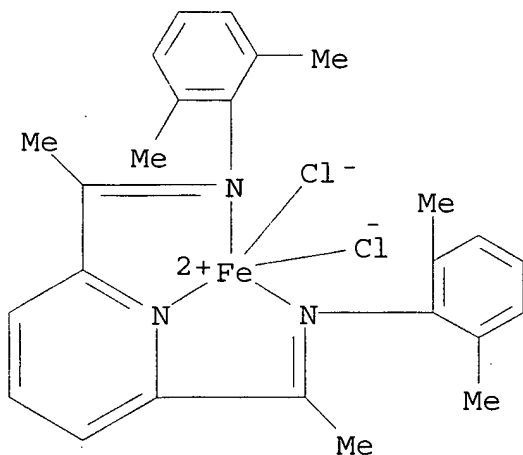
RN 1070-00-4 HCA

CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



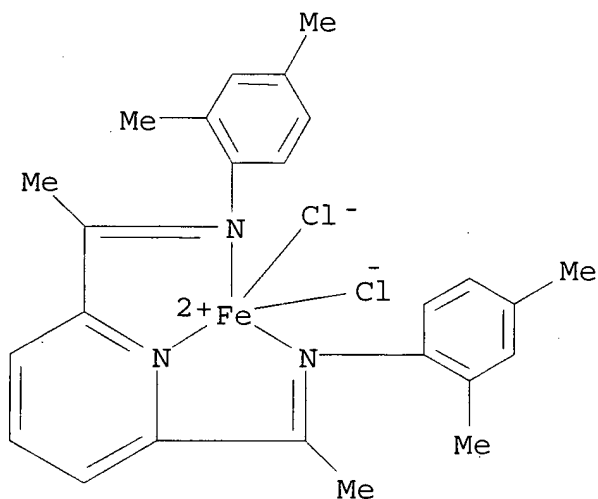
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



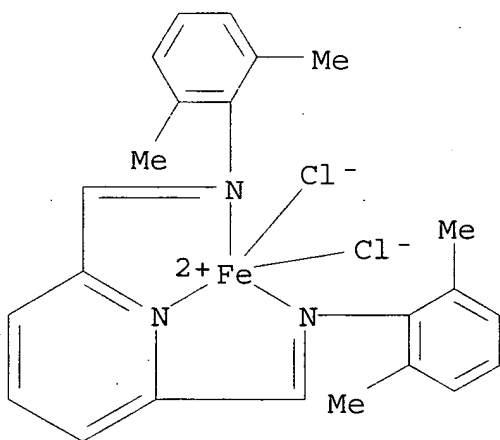
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



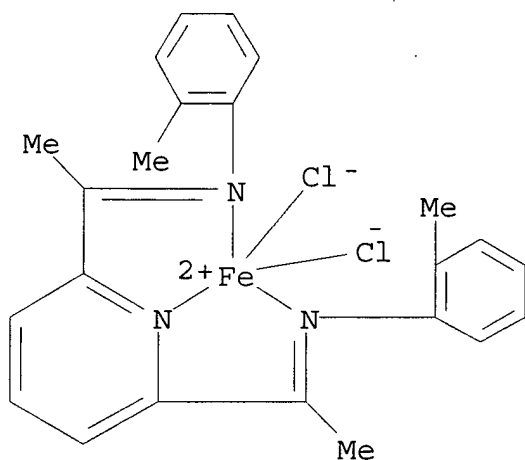
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



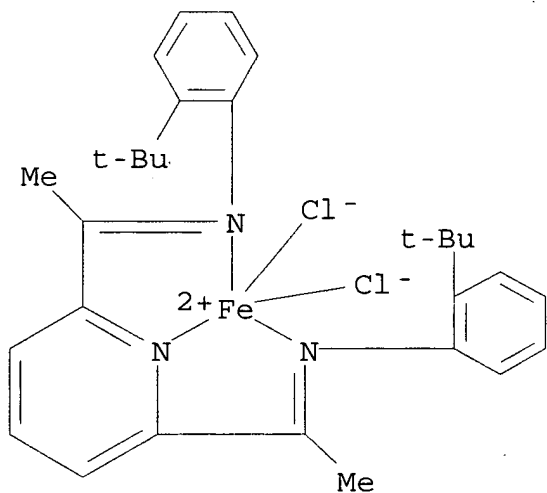
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitril o-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



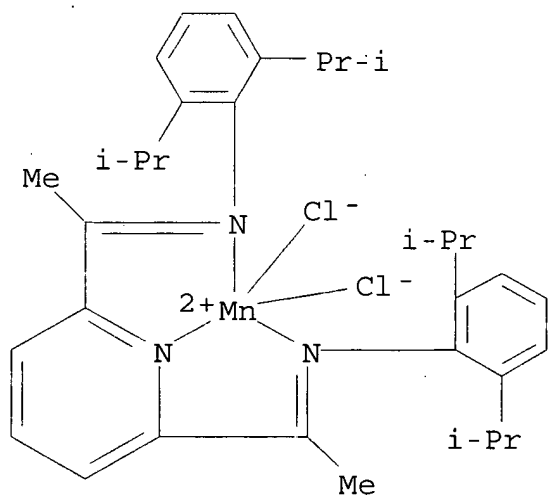
RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



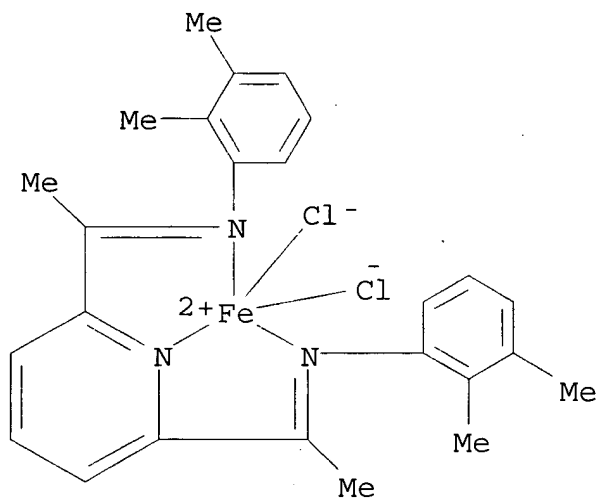
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



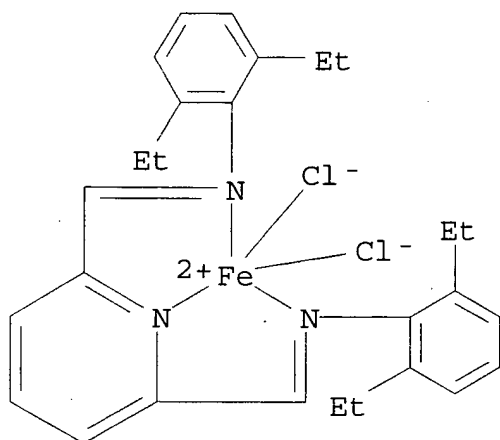
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,3-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



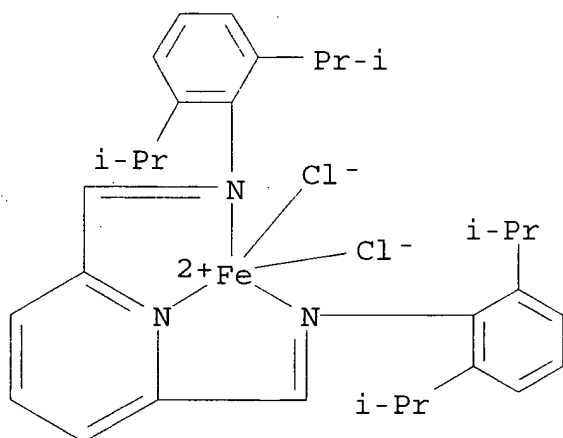
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



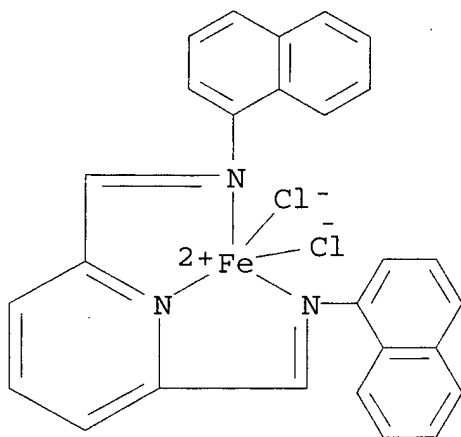
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



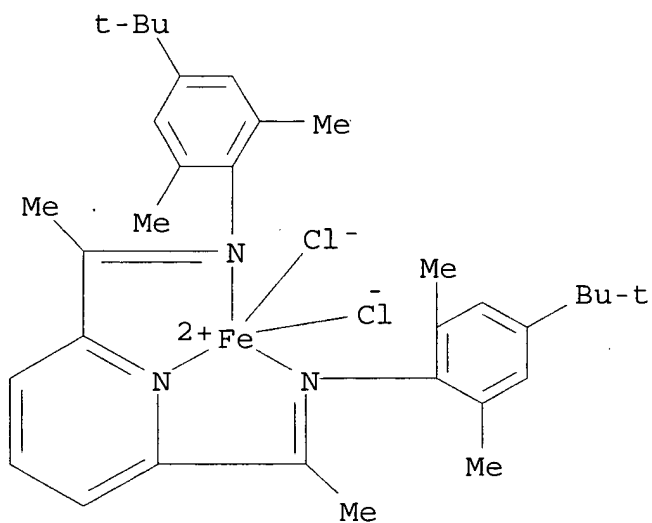
RN 221391-15-7 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[1-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



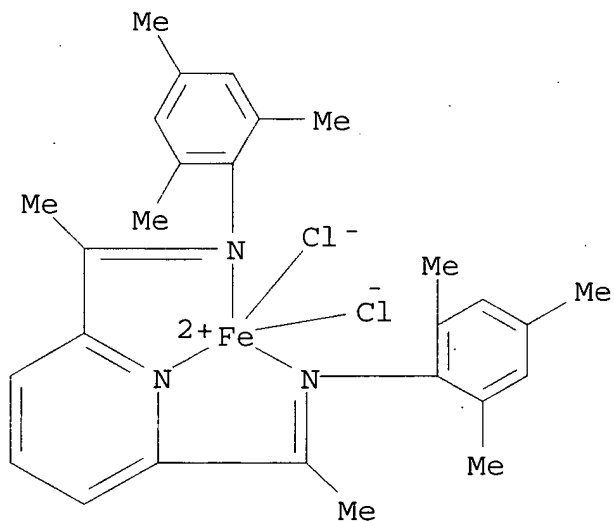
RN 261787-81-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethynyl]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-κN]]- (9CI) (CA INDEX NAME)



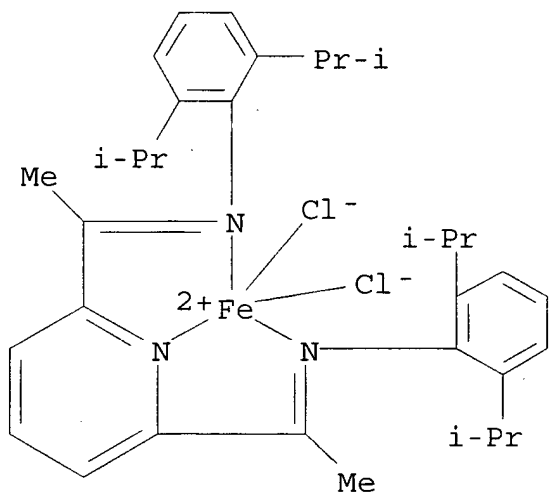
RN 308359-84-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethynyl]bis[2,4,6-trimethylbenzenamine-κN]]- (9CI) (CA INDEX NAME)



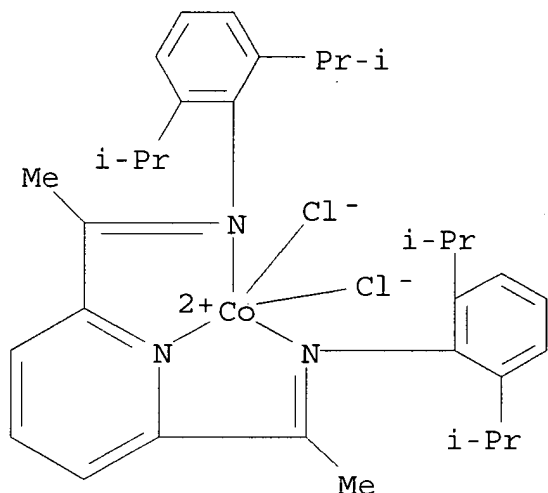
RN 308359-85-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 308359-86-6 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IT 1344-28-1, Alumina, uses 7631-86-9,
Silica, uses
(support; olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

RN 1344-28-1 HCA

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

IC ICM C08F010-00

ICS C07F013-00; C07F015-02; C07F015-06; C07D213-53

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST titanium aluminum impregnated support olefin polymn **catalyst**

IT Aluminoxanes

(Me; olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

IT Transition metal complexes

(late; olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

IT Polymerization **catalysts**

(olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

IT Aluminoxanes

(olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

IT Diatomite

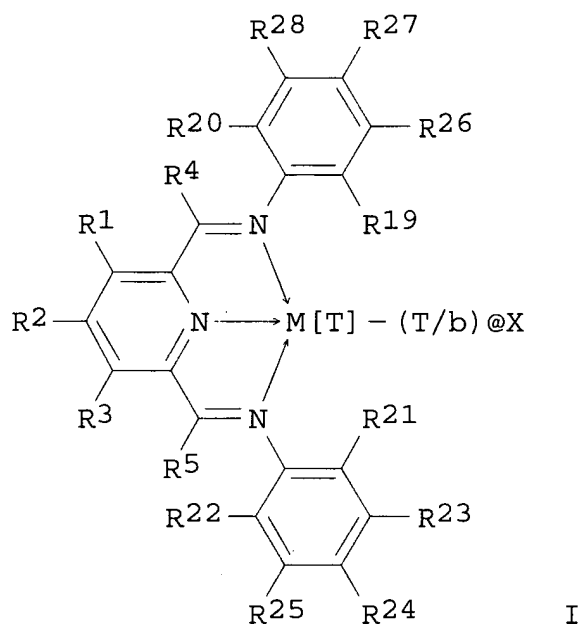
(support; olefin polymn. **catalyst** with titanium- or
aluminum-impregnated supports)

- IT Polymerization **catalysts**
 (supports, titanium or aluminum-impregnated; olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- IT 75-24-1, Trimethyl Aluminum 96-10-6, DiethylAluminum chloride, uses 97-93-8, Triethyl alu-minium, uses 100-99-2, Triisobutyl Aluminum, uses 546-68-9, Titaniumtetrakisopropoxide 563-43-9, Ethylalu-minium dichloride, uses 917-65-7, MethylAluminum dichloride 992-92-7, Titanium tetramethoxide 1070-00-4, Tri-n-octylAluminum 1184-58-3, DimethylAluminum chloride 3087-36-3, Titanium tetraethoxide 5593-70-4, Titanium tetrabutoxide 7429-90-5, Aluminium, uses 7440-32-6, Titanium, uses 12075-68-2, EthylAluminumsesquichloride 12542-85-7, Methyl-Aluminumsesquichloride 13463-67-7, Titania, uses 15488-12-7 16324-24-6 20492-39-1 21863-06-9, Triethanolamine aluminate 207129-93-9 207129-95-1 207129-96-2 210537-35-2 210768-87-9 221361-51-9, Tilcom BIP 221391-06-6 221391-08-8 221391-12-4 221391-13-5 221391-15-7 261787-81-9 308359-84-4 308359-85-5 308359-86-6 339569-49-2
 (olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- IT 9002-88-4P, Polyethylene
 (olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- IT 210155-39-8P
 (olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- IT 88-05-1, 2,4,6-Trimethylaniline 1129-30-2, 2,6-Diacetylpyridine 7758-94-3, Iron(II) chloride
 (olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)
- IT 1309-48-4, Magnesia, uses 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 14807-96-6, Talc, uses
 (support; olefin polymn. **catalyst** with titanium- or aluminum-impregnated supports)

L54 ANSWER 5 OF 9 HCA COPYRIGHT 2003 ACS on STN

134:281263 Polymerisation transition metal complex **catalyst** for .alpha.-olefins. McTavish, Stuart James; Payne, Marc John (BP Chemicals Limited, UK). PCT Int. Appl. WO 2001023396 A1 20010405, 41 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, (US), UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-GB3487 20000911. PRIORITY: GB 1999-23072 19990929.

GI



AB A N-contg. transition metal complex I is prepd., where M = Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[III], Ru[III] or Ru[IV]; X = an atom or group covalently or ionically bonded to the transition metal M; T = oxidn. state of the transition metal M and b is the valency of the atom or group X; R1, R2, R3, R4, R5, R19, R20, R21, R22, R23, R24, R25, R26, R27 and R28 = H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; when any .gtoreq.2 R1-5 are hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, the .gtoreq.2 can be linked to form .gtoreq.1 cyclic substituents; characterized in that .gtoreq.1 of R4 and R5 is a hydrocarbyl group having .gtoreq.2 C atoms. Thus, ethylene was polymd. 1 h in the presence of MAO and 2,6-bis-[1-(2,4,6-trimethylphenylimino)-1-phenylmethyl]pyridine iron dichloride to give polyethylene having mol. wt. distribution 34.9.

IT 7631-86-9, Silica, uses
(support; transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)

RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

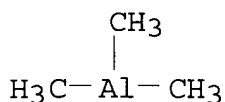
O=Si=O

IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
1070-00-4, Trioctylaluminum 332390-48-4
332390-50-8 332390-52-0 332390-54-2
332390-56-4 332390-58-6 332390-60-0
332390-62-2 332390-64-4 332390-66-6
332390-68-8 332390-71-3 332390-73-5
332390-75-7 332390-77-9 332390-79-1
332390-81-5 332390-83-7 332390-84-8
332390-86-0

(transition metal complex polymn. **catalyst** for
polyethylene of broad mol. wt. distribution)

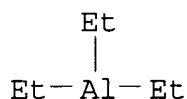
RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



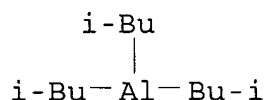
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



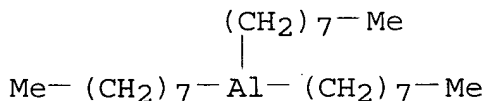
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



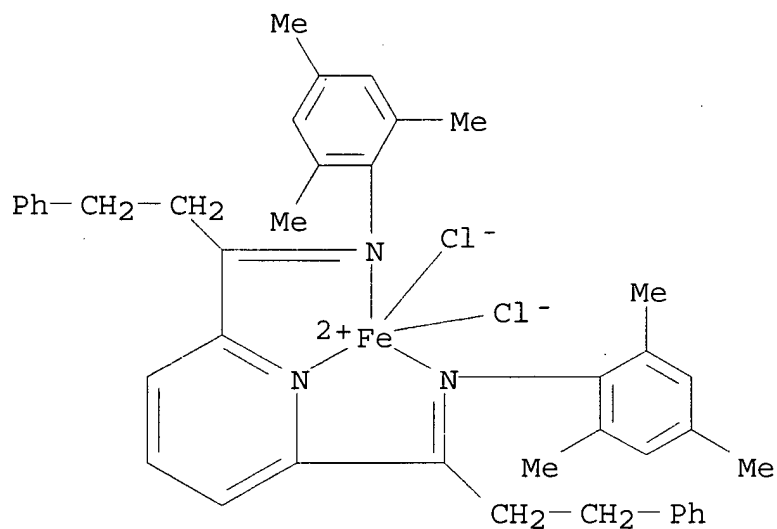
RN 1070-00-4 HCA

CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



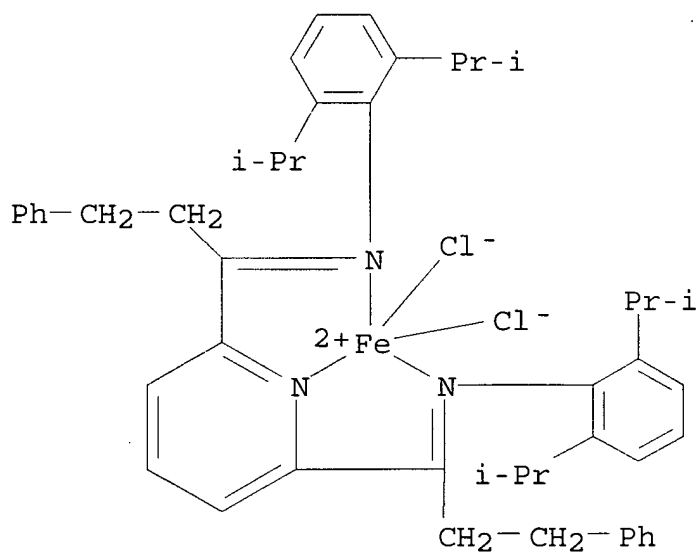
RN 332390-48-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI)
(CA INDEX NAME)



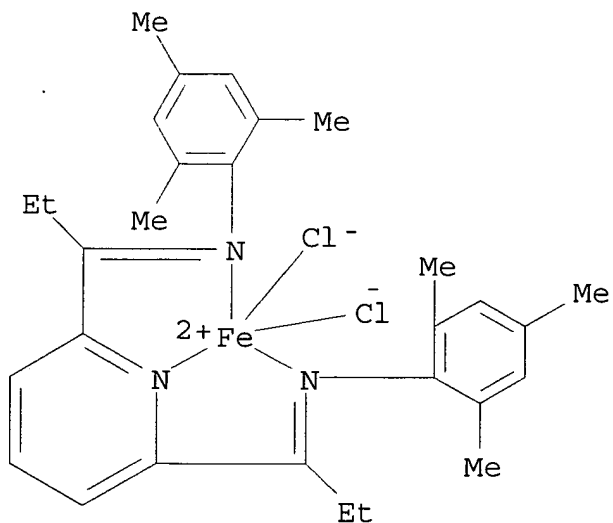
RN 332390-50-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



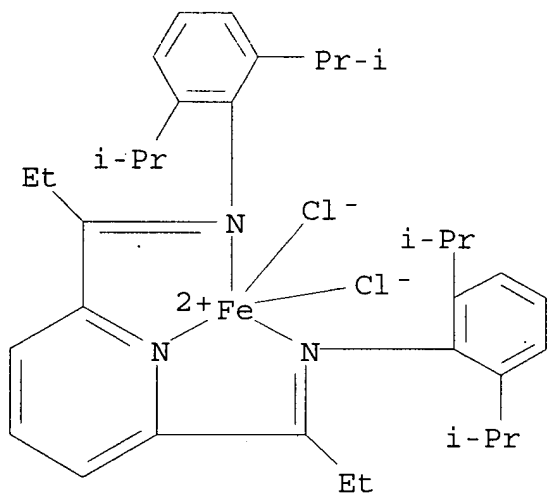
RN 332390-52-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dipropylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



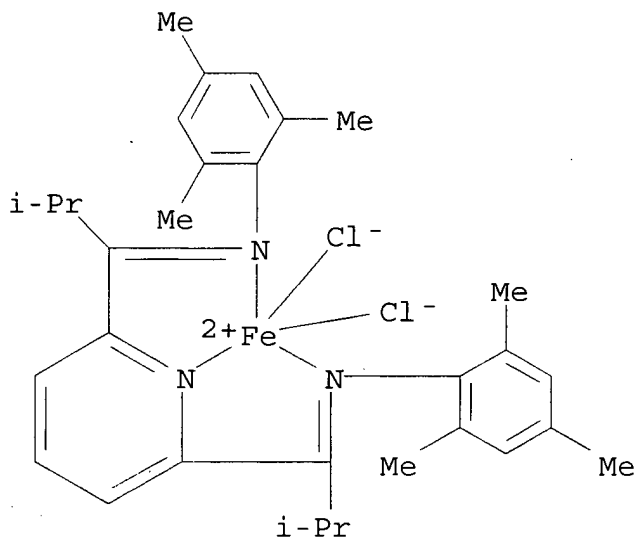
RN 332390-54-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dipropylidyne]bis[2,6-bis(1-methylethyl)benzenamine-N]]- (9Cl) (CA INDEX NAME)



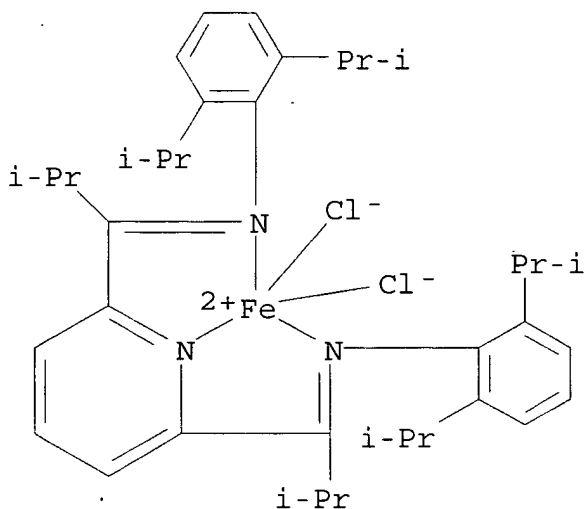
RN 332390-56-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(2-methylpropylidyne)]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9Cl) (CA INDEX NAME)



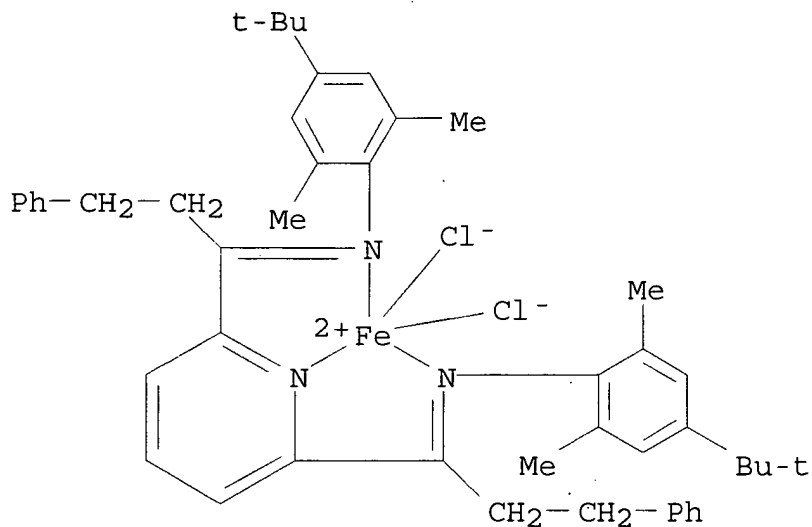
RN 332390-58-6 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(2-methylpropylidene)]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



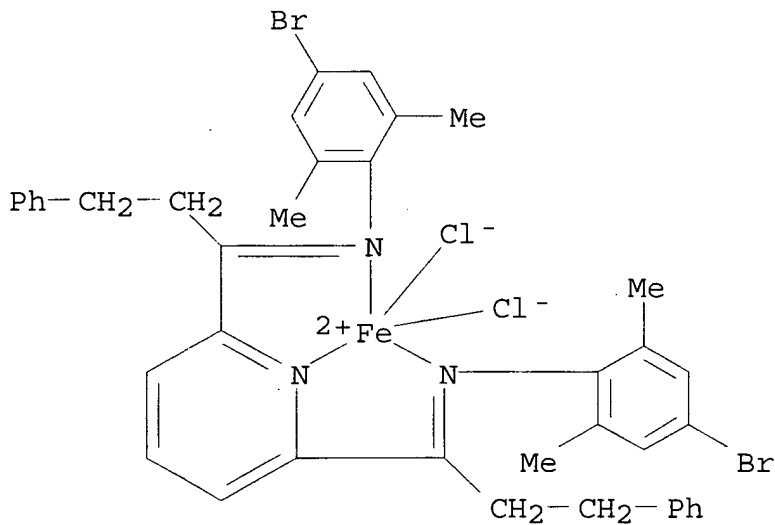
RN 332390-60-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidene)]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



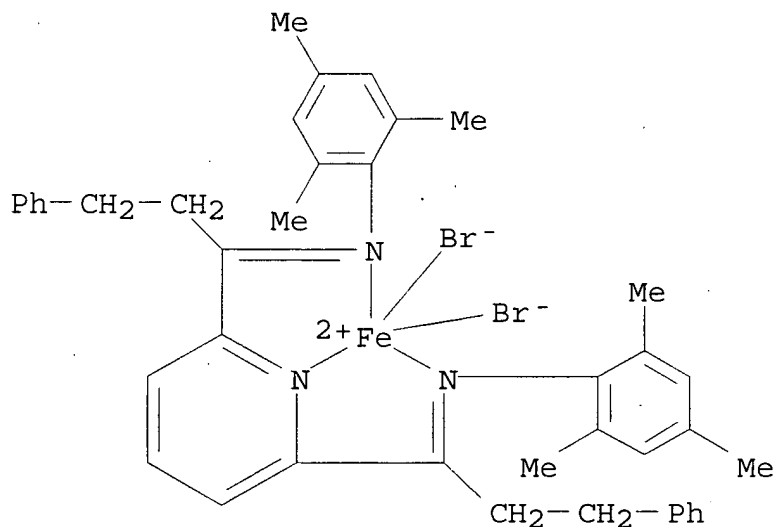
RN 332390-62-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[4-bromo-2,6-dimethylbenzenamine-.kappa.N]] - (9CI) (CA INDEX NAME)



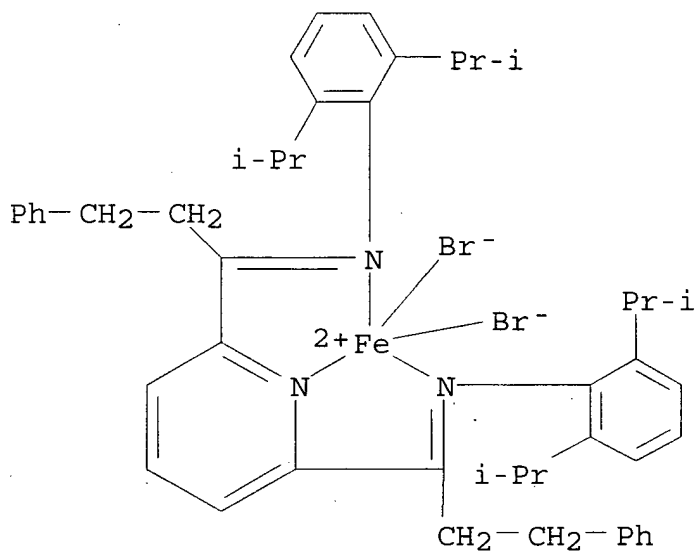
RN 332390-64-4 HCA

CN Iron, dibromo[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[2,4,6-trimethylbenzenamine-.kappa.N]] - (9CI) (CA INDEX NAME)



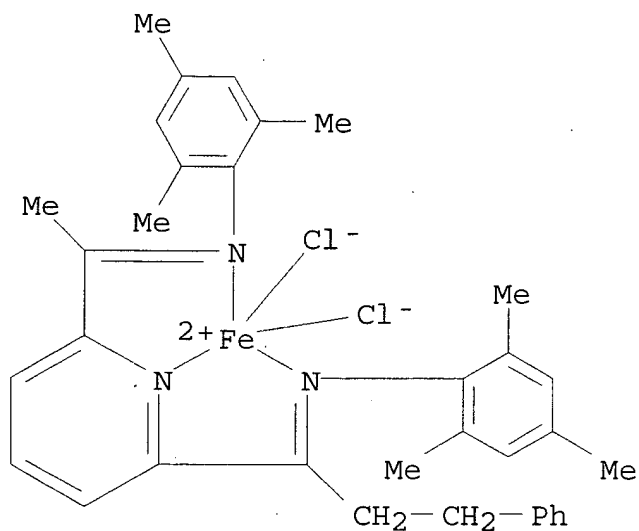
RN 332390-66-6 HCA

CN Iron, dibromo[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



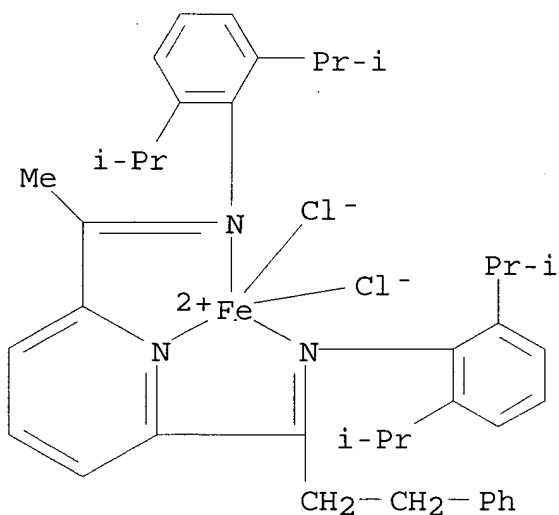
RN 332390-68-8 HCA

CN Iron, dichloro[2,4,6-trimethyl-N-[3-phenyl-1-[6-[1-[(2,4,6-trimethylphenyl)imino-.kappa.N]ethyl]-2-pyridinyl-.kappa.N]propylidene]benzenamine-.kappa.N]-(9CI) (CA INDEX NAME)



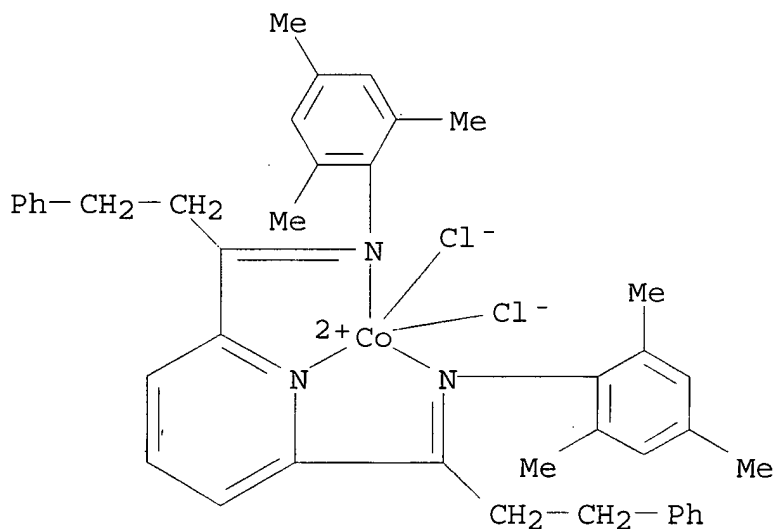
RN 332390-71-3 HCA

CN Iron, [N-[1-[6-[1-[[2,6-bis(1-methylethyl)phenyl]imino-.kappa.N]ethyl]-2-pyridinyl-.kappa.N]-3-phenylpropylidene]-2,6-bis(1-methylethyl)benzenamine-.kappa.N]dichloro- (9CI) (CA INDEX NAME)



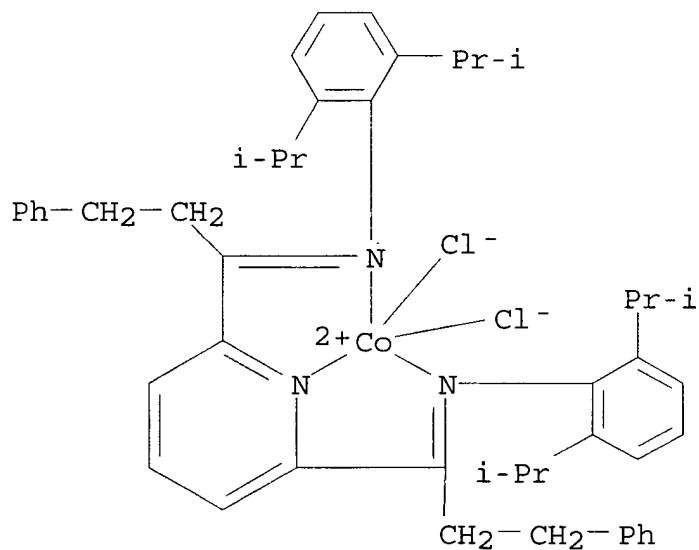
RN 332390-73-5 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidyne)]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



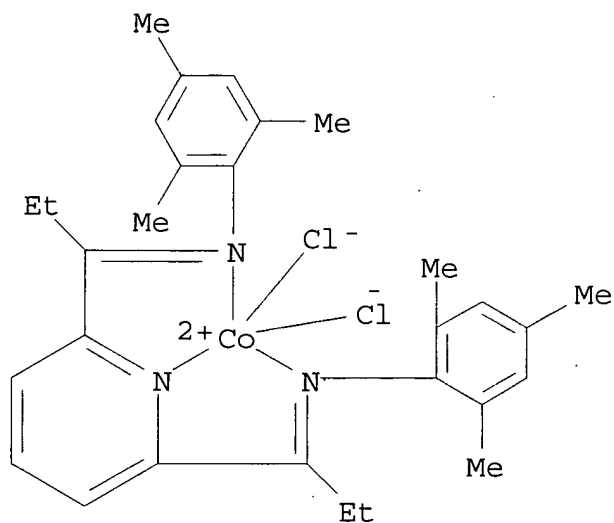
RN 332390-75-7 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(3-phenylpropylidene)]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



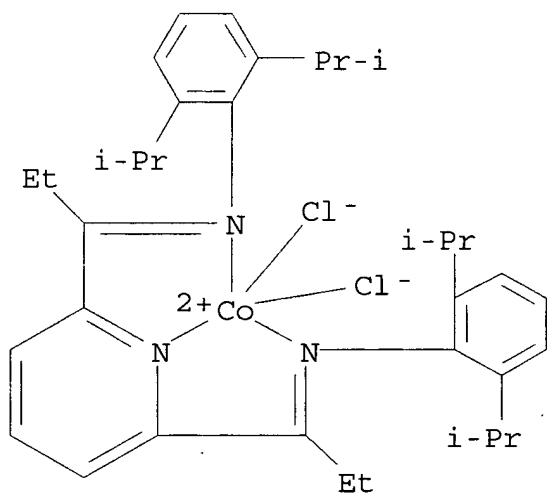
RN 332390-77-9 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dipropylidene]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



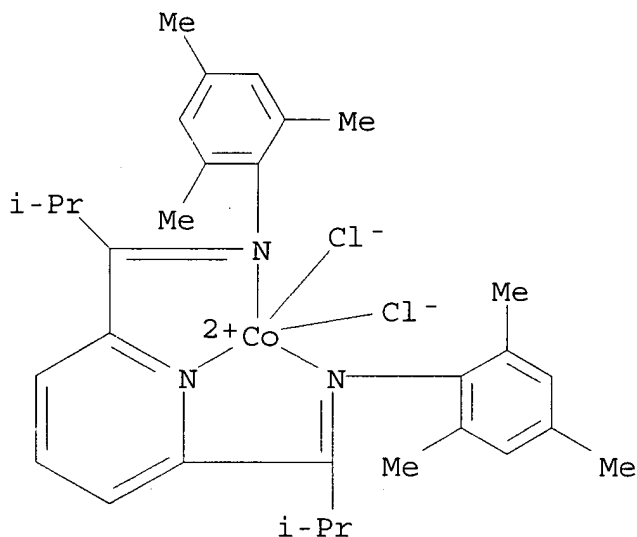
RN 332390-79-1 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dipropylidyne]bis[2,6-bis(1-methylethyl)benzenamine-N]]-(9CI) (CA INDEX NAME)



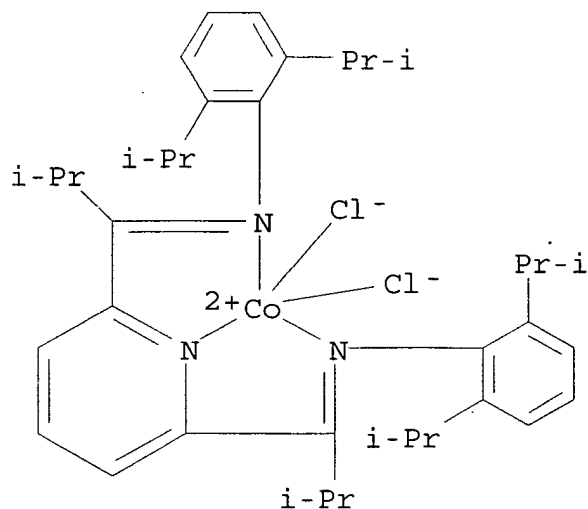
RN 332390-81-5 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(2-methylpropylidyne)]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



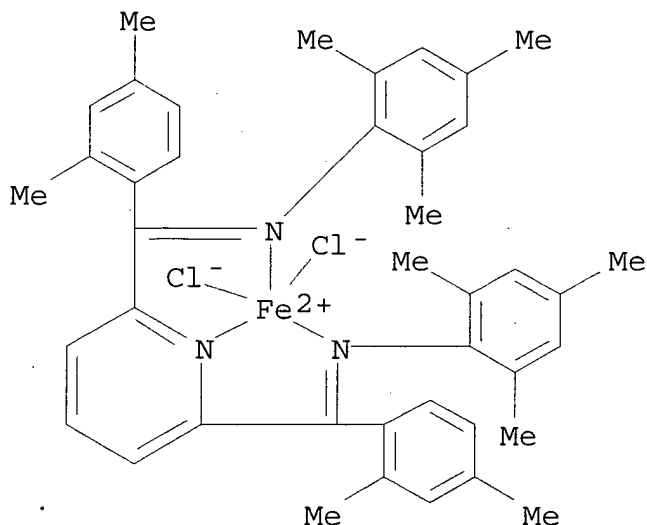
RN 332390-83-7 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(2-methylpropylidyne)]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



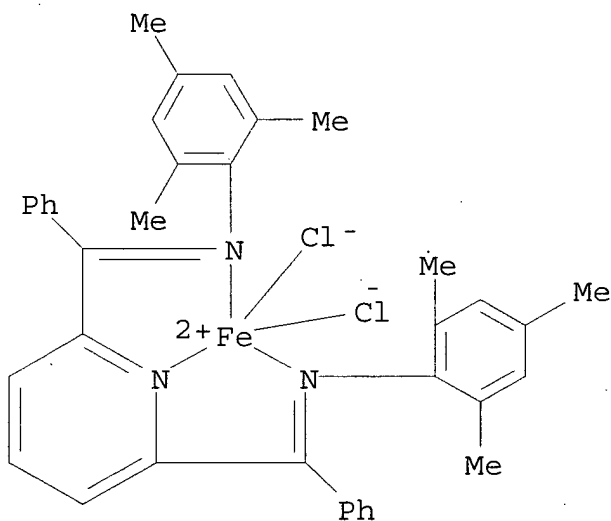
RN 332390-84-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis[(2,4-dimethylphenyl)methylidyne]]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



RN 332390-86-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(phenylmethyldyn
e)]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C07F015-02

ICS C08F210-16; C08F010-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29

ST cobalt complex **catalyst** polymn olefin; iron complex

catalyst polymn olefin; manganese complex **catalyst**

polymn olefin; ruthenium complex **catalyst** polymn olefin;

pyridiylldimine iron complex **catalyst** polymn

IT Aluminoxanes

(Me; transition metal complex polymn. **catalyst** for

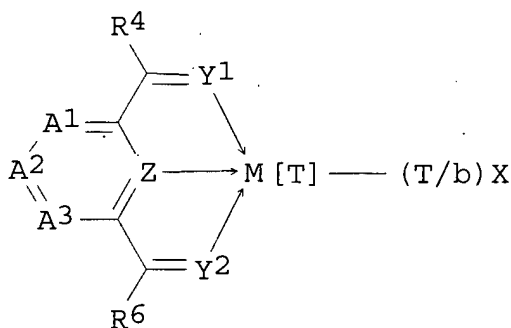
- polyethylene of broad mol. wt. distribution)
- IT Polymerization **catalysts**
(coordination; transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT Lewis bases
(transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 288313-93-9P 332390-89-3P 332390-91-7P 332390-95-1P
332390-98-4P 332391-00-1P
(ligand; transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 204203-14-5 210155-39-8
(ligand; transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 7631-86-9, Silica, uses
(support; transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum chloride, uses 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 563-43-9, Ethylaluminum dichloride, uses 917-65-7, Methylaluminum dichloride 1070-00-4, Trioctylaluminum 1184-58-3, Dimethylaluminum chloride 12075-68-2, Ethyl aluminum sesquichloride 12542-85-7, Methyl aluminum sesquichloride 332390-48-4
332390-50-8 332390-52-0 332390-54-2
332390-56-4 332390-58-6 332390-60-0
332390-62-2 332390-64-4 332390-66-6
332390-68-8 332390-71-3 332390-73-5
332390-75-7 332390-77-9 332390-79-1
332390-81-5 332390-83-7 332390-84-8
332390-86-0
(transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 9002-88-4P, Polyethylene
(transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 5768-24-1P, 2,6-Dibenzoylpyridine 332390-93-9P 332391-04-5P
(transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)
- IT 74-88-4, Iodomethane, reactions 88-05-1, 2,4,6-Trimethylaniline 100-39-0, Benzyl bromide 108-38-3, m-Xylene, reactions 3739-94-4, Pyridine 2,6-dicarbonyl dichloride 4111-54-0, Lithium diisopropylamide 7758-94-3, Iron(II) chloride
(transition metal complex polymn. **catalyst** for polyethylene of broad mol. wt. distribution)

L54 ANSWER 6 OF 9 HCA COPYRIGHT 2003 ACS on STN

134:193872 Polymerization process of 1-olefins in the presence of **catalysts**, cocatalysts and supports. Payne, Marc John (BP Chemicals Limited, UK). PCT Int. Appl. WO 2001012684 A1 20010222, 23 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB,

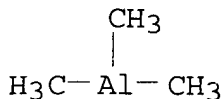
GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
APPLICATION: WO 2000-GB2806 20000720. PRIORITY: GB 1999-18189 19990802.

GI

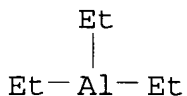


AB A process for the polymn. or copolymn. of 1-olefins is disclosed, comprising contacting the monomeric olefin under polymn. conditions in the gas phase with a polymn. **catalyst** comprising a complex of formula I wherein Y1, Y2 = independently S, O, or N-R; Z = N or P; A1, A2, A3 = independently N, P, or C-R8; and R, each R8, R4, and R6 = independently selected from H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, or substituted heterohydrocarbyl; M = Fe, Co, Ru, or; X = an atom or group covalently or ionically bonded to the metal M; = the oxidn. state of the metal; and b = the valency of the atom or group X; wherein the partial pressure of the 1-olefin under the polymn. conditions is 11-20 bar. An improved activity and activity profile is shown compared with the prior art. Thus, 2 g 2,6-diacetylpyridine and 5.16 cm³ 2,4,6-tri-Me aniline in the presence of toluene sulfonic acid monohydrate in toluene were refluxed for 20 h in a Dean-Stark app. to give 2,6-diacetylpyridine bis(2,4,6-trimethylanil), 10 g of which was added to 3.19 g FeCl₂ in hot n-butanol (80.degree.) for 60 min, and agitated at room temp. for 16 h to give 2,6-Diacetylpyridine bis(2,4,6-trimethylanil)FeCl₂. ES 70X (2 g, heated at 200.degree. for 16 h) and 2.81 mL 1.78 M methylaluminoxane in toluene were added to form a slurry, the slurry was heated for 1 h at 80.degree., 0.026 g 2,6-Diacetylpyridine bis(2,4,6-trimethylanil)FeCl₂ was added, the mixt. was heated at 80.degree. for 1 to give a **silica/MAO/Fe complex catalyst**. Ethylene (15 bar) was polymd. in the **catalyst** for 1 h at 80.degree. showing av. activity 3738 g/mmol-1/h-1/b-1 and av.

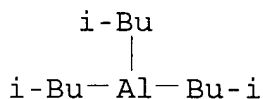
productivity 1206 g polymer/g **catalyst**.
 IT 75-24-1, Trimethylaluminum 97-93-8,
 Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
 1070-00-4, Tri-n-octylaluminum
 (activator; polymn. of 1-olefins in presence of supported
catalysts)
 RN 75-24-1 HCA
 CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



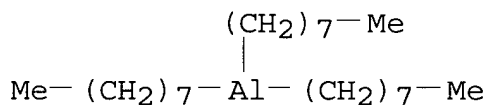
RN 97-93-8 HCA
 CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



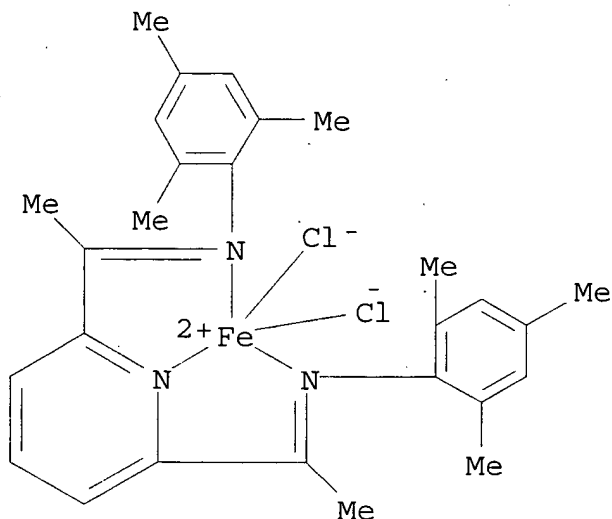
RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 207129-94-0P
 (polymn. of 1-olefins in presence of supported **catalysts**)
 RN 207129-94-0 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,4
 ,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX
 NAME)



IT 1344-28-1, Alumina, uses 7631-86-9, ES
 70X, uses
 (support; polymn. of 1-olefins in presence of supported
catalysts)

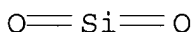
RN 1344-28-1 HCA

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F110-02

ICS C08F004-70

CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67

IT Aluminoxanes

(Me, activator; polymn. of 1-olefins in presence of supported
catalysts)

IT Aluminoxanes

(activator; polymn. of 1-olefins in presence of supported
catalysts)

IT Polymerization **catalysts**

(gas-phase; polymn. of 1-olefins in presence of supported
catalysts)

IT Lewis bases

(neutral; polymn. of 1-olefins in presence of supported
catalysts)

IT **Catalyst** supports

Polymerization **catalysts**

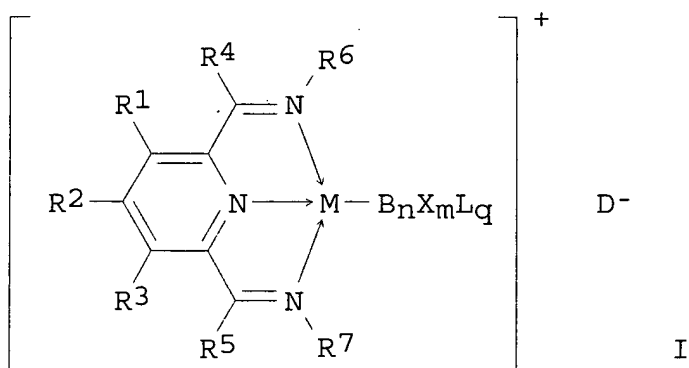
(polymn. of 1-olefins in presence of supported **catalysts**
)

- IT Polyolefins
(polymn. of 1-olefins in presence of supported **catalysts**)
- IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum chloride, uses 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 563-43-9, Ethylaluminum dichloride, uses 917-65-7, Methylaluminum dichloride 1070-00-4, Tri-n-octylaluminum 1184-58-3, Dimethylaluminum chloride 12075-68-2, Ethyl aluminum sesquichloride 12542-85-7, Methyl aluminum sesquichloride
(activator; polymn. of 1-olefins in presence of supported **catalysts**)
- IT 9060-90-6, Poly(aminostyrene)
(polymn. of 1-olefins in presence of supported **catalysts**)
- IT 207129-94-0P
(polymn. of 1-olefins in presence of supported **catalysts**)
- IT 210155-39-8P
(reactant; polymn. of 1-olefins in presence of supported **catalysts**)
- IT 88-05-1, 2,4,6-Trimethylaniline 1129-30-2, 2,6-Diacetylpyridine 7758-94-3, Iron chloride (FeCl₂)
(reactant; polymn. of 1-olefins in presence of supported **catalysts**)
- IT 1314-23-4, Zirconia, uses 1344-28-1, Alumina, uses 7631-86-9, ES 70X, uses 7786-30-3, Magnesium chloride (MgCl₂), uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene
(support; polymn. of 1-olefins in presence of supported **catalysts**)

L54 ANSWER 7 OF 9 HCA COPYRIGHT 2003 ACS on STN

134:5260 Olefin polymerization **catalysts** and polymerization process. Britovsek, George Johan Peter; Gibson, Vernon Charles; Spitzmesser, Stefan Klaus (BP Chemicals Limited, UK). PCT Int. Appl. WO 2000069869 A1 20001123, 39 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-GB1385 20000412. PRIORITY: GB 1999-11245 19990515.

GI

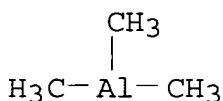


AB Complex I is disclosed [M = Fe, Co, Mn, Ru, V, Ti; R¹-7 = H, halogen, (substituted) hydrocarbyl, (substituted) heterohydrocarbyl, SiR'³; R' = H, halogen, (substituted) hydrocarbyl, (substituted) heterohydrocarbyl; B = chelating ligand comprising at least one atom selected from O, S, N, and P bound directly to M; X = monodentate monoanionic ligand; L = ligand datively bonded to M; n .gtoreq.1; m, q .gtoreq.0; D = compatible non-coordinating anion]. An olefin polymn. **catalyst** comprises (1) the above complex and (2) an activator selected from organoaluminum compds., hydrocarbylboron compds., and salts of a cationic oxidizing agent and a non-coordinating compatible anion.

IT 75-24-1, Trimethylaluminium 97-93-8, Triethylaluminium, uses 100-99-2, uses 1070-00-4, Tri-n-octylaluminum 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 308359-84-4 (olefin polymn. **catalysts** and polymn. process)

RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



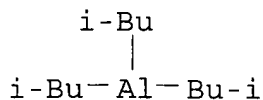
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)

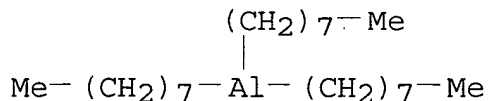


RN 100-99-2 HCA

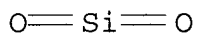
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



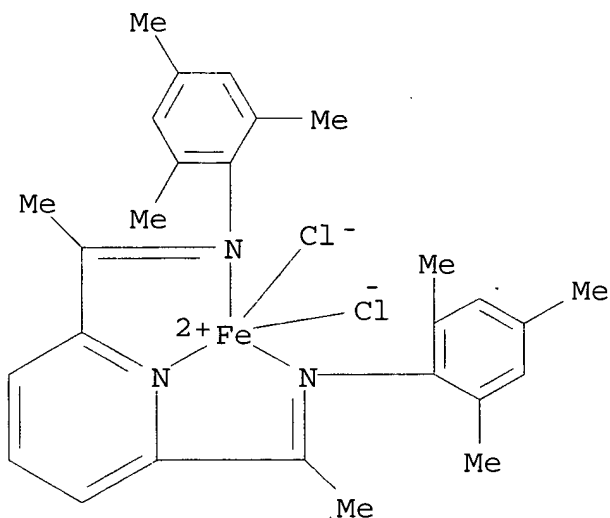
RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



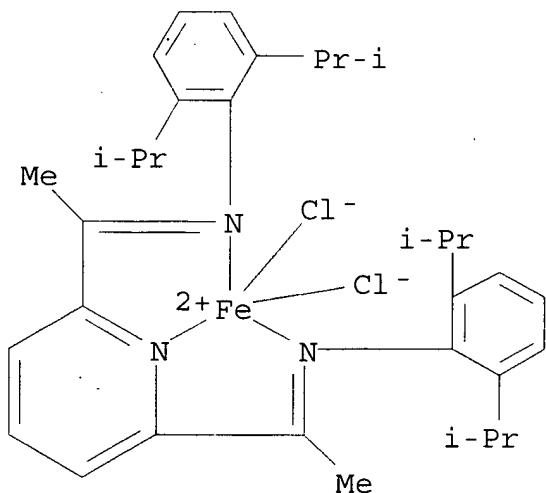
RN 1344-28-1 HCA
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)
 *** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 7631-86-9 HCA
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 308359-84-4 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

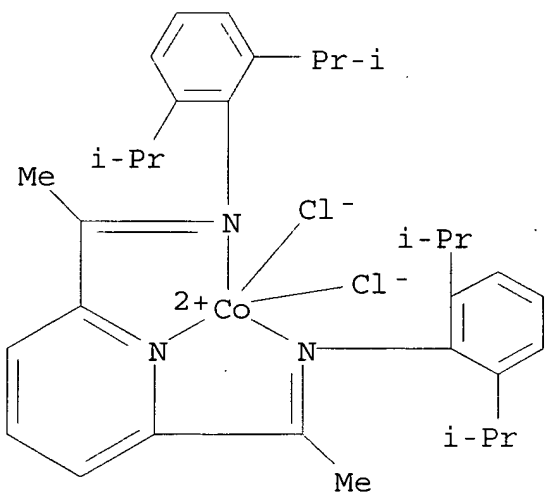


IT 308359-85-5 308359-86-6
 (olefin polymn. **catalysts** and polymn. process)
 RN 308359-85-5 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 308359-86-6 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-
.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-
.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C07F015-00

ICS C07F015-02; C07F015-06; C07F013-00; C07F009-00; C07F007-00;
C08F010-00; C08F004-64; C08F004-68; C08F004-695; C08F004-70

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 29

ST olefin polymn **catalyst** transition metal complex

IT Aluminoxanes

(Me; olefin polymn. **catalysts** and polymn. process)

IT Polymerization **catalysts**

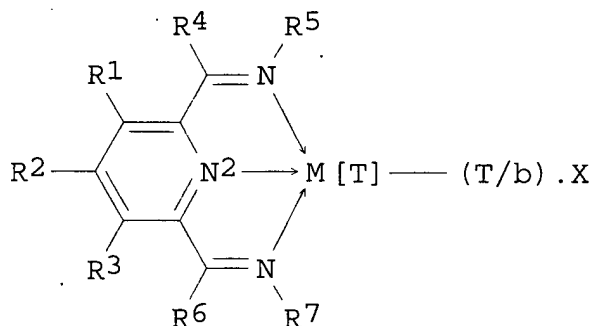
(olefin polymn. **catalysts** and polymn. process)

IT 75-24-1, Trimethylaluminium 97-93-8,
Triethylaluminium, uses 100-99-2, uses 563-43-9,
Ethylaluminium dichloride, uses 917-65-7, Methylaluminum
dichloride 1070-00-4, Tri-n-octylaluminum 1314-23-4,
Zirconia, uses 1344-28-1, Alumina, uses
7631-86-9, Silica, uses 7786-30-3, Magnesium
chloride, uses 9003-07-0, Polypropylene 9003-53-6, Polystyrene
9060-90-6, Poly(aminostyrene) 12075-68-2, Ethylaluminum
sesquichloride 12542-85-7, Methylaluminum sesquichloride
308329-49-9 308329-51-3 308329-53-5 308329-55-7 308329-57-9
308329-59-1 308329-61-5 308329-63-7 308329-65-9 308329-67-1
308329-69-3 308329-71-7 308329-73-9 308329-75-1 308329-76-2
308329-77-3 308329-78-4 308329-79-5 308329-80-8 308329-81-9
308329-82-0 308329-83-1 308359-84-4
(olefin polymn. **catalysts** and polymn. process)
IT 9002-88-4P, Polyethylene 308329-89-7P
(olefin polymn. **catalysts** and polymn. process)
IT 308329-85-3P 308329-87-5P
(olefin polymn. **catalysts** and polymn. process)
IT 308359-85-5 308359-86-6
(olefin polymn. **catalysts** and polymn. process)
IT 19269-14-8P, Sodium 1,3-diphenyl-1,3-propanedionate
(olefin polymn. **catalysts** and polymn. process)
IT 120-46-7, Dibenzoylmethane
(olefin polymn. **catalysts** and polymn. process)

L54 ANSWER 8 OF 9 HCA COPYRIGHT 2003 ACS on STN

133:17991 Polymerization of 1-olefins using transition metal compounds
catalysts. Berardi, Alain; Speakman, John Gabriel (Bp
Chemicals Limited, UK; Bp Chemicals S.N.C.). PCT Int. Appl. WO
2000032641 A1 20000608, 31 pp. DESIGNATED STATES: W: AE,
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR,
GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 1999-GB3815 19991116.
PRIORITY: EP 1998-430025 19981130.

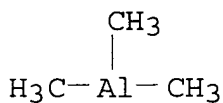
GI



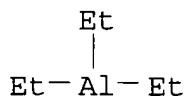
AB A process for the polymn. of 1-olefins comprises (a) prep. a prepolymer-based **catalyst** by contacting .gtoreq.1 1-olefin such as ethylene with a **catalyst** system, and (b) contacting the prepolymer-based **catalyst** with .gtoreq.1 1-olefin, wherein the **catalyst** system comprises (1) a compd. I [M = Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X = atom or group covalently or ionically bonded to the transition metal M; T = oxidn. state of the transition metal M; and b = valency of X; R1-7 = H, halogen, (un)substituted hydrocarbyl, (un)substituted heterohydrocarbyl and cyclic substituent from .gtoreq.2 of R1-7], such as 2,6-diacetylpyridinebis(2,6-diisopropylanil)FeCl₂, optionally, (2) an activator such as methylalumoxane, and (3) a compd. AlR₃, (R = C1-12 alkyl, halo) such as triethylaluminum.

IT 75-24-1, Trimethylaluminum 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 207129-93-9 207129-94-0 207129-95-1 207129-96-2 210537-35-2 210768-87-9 221391-06-6 221391-08-8 221391-12-4 221391-13-5 221391-15-7 (polymn. of 1-olefins using transition metal compds. **catalysts**)

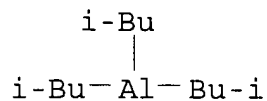
RN 75-24-1 HCA
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



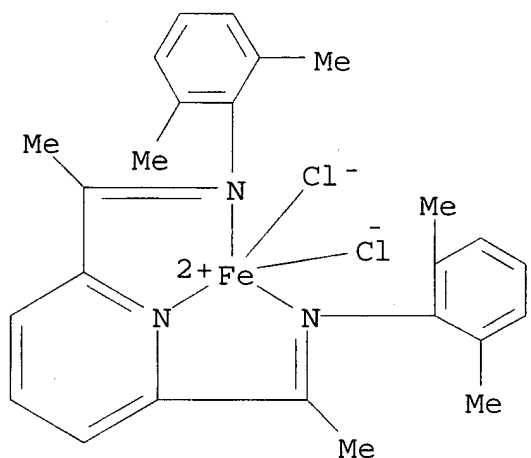
RN 97-93-8 HCA
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



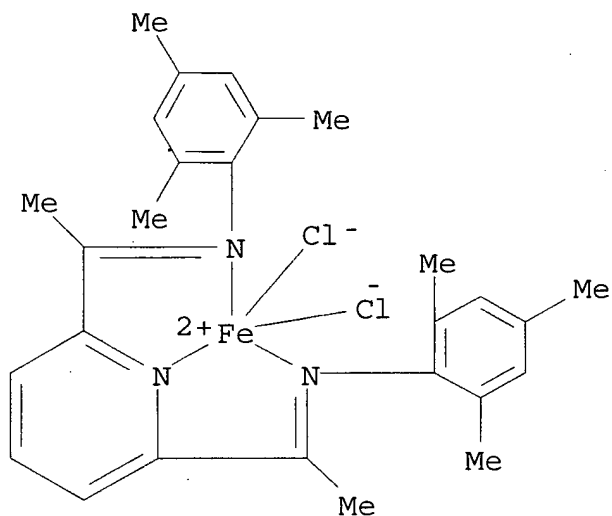
RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 207129-93-9 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)

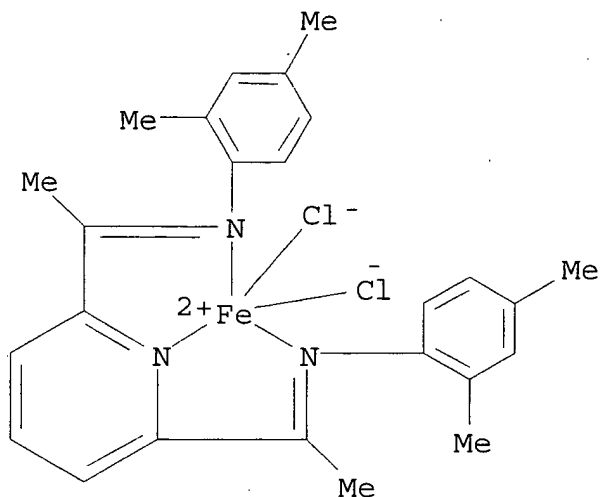


RN 207129-94-0 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



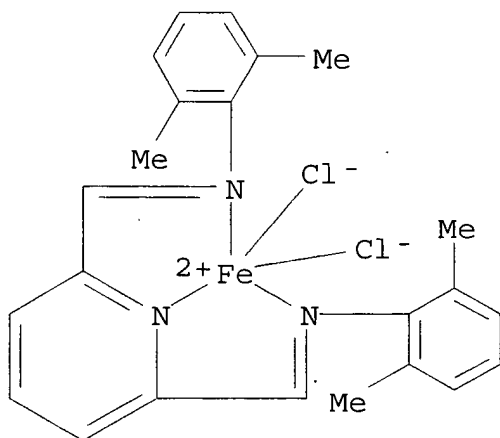
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



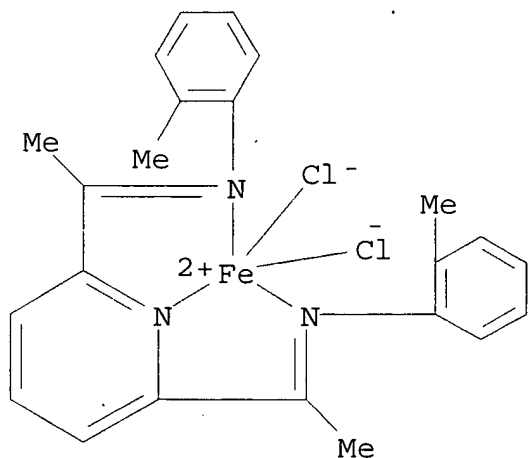
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



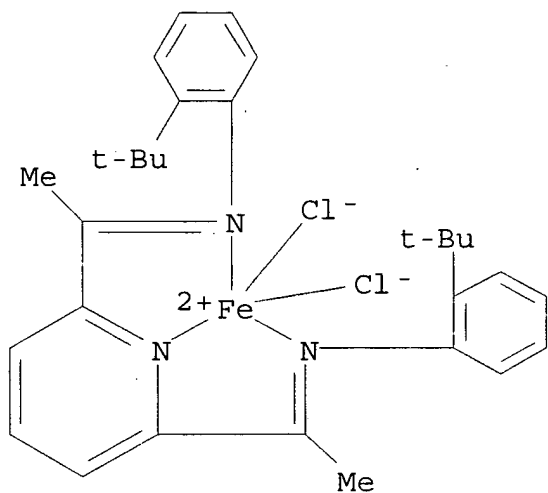
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitrilo-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



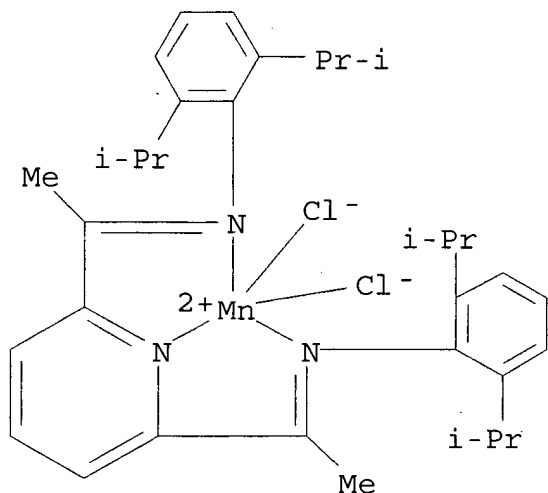
RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



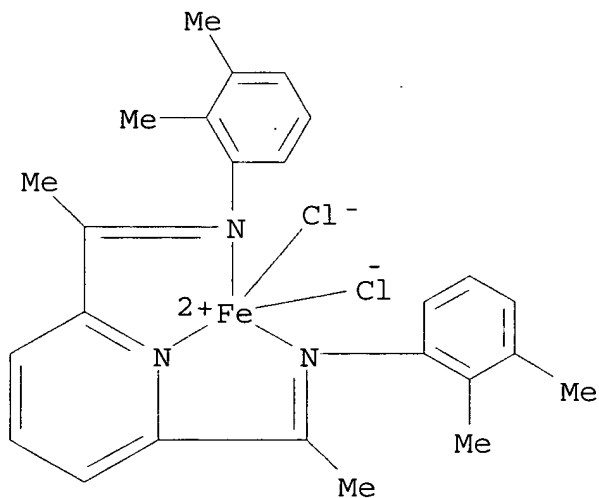
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



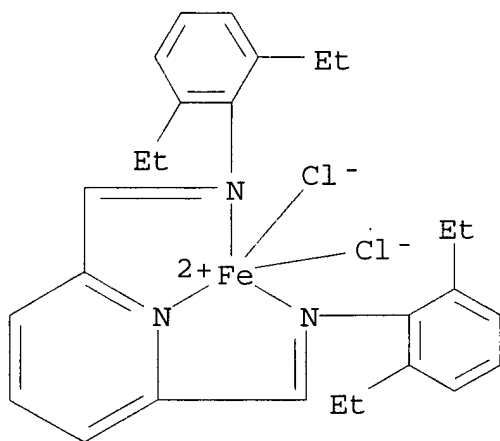
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,3-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



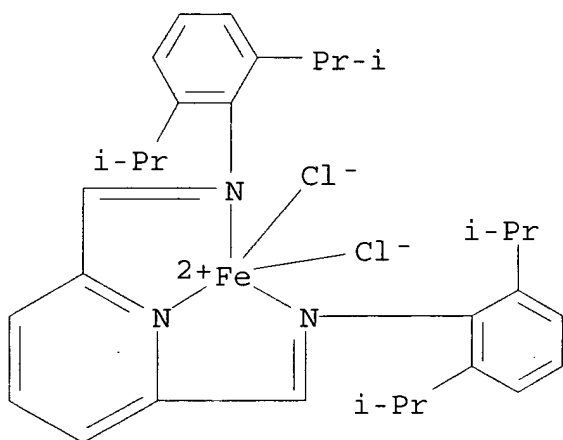
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



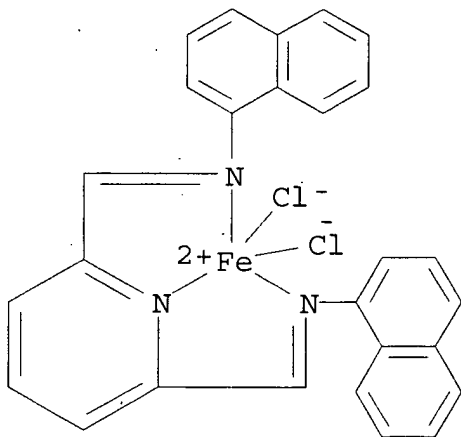
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

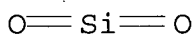


RN 221391-15-7 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[1-isopropyl-2,6-naphthalenediamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IT 1344-28-1, Alumina, uses 7631-86-9, ES
 70X, uses
 (support; polymn. of 1-olefins using transition metal compds.
catalysts)
 RN 1344-28-1 HCA
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)
 *** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 7631-86-9 HCA
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F004-70
 ICS C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST olefin polymn transition metal complex **catalyst**;
 polyolefin prepn transition metal complex **catalyst**
 IT Aluminoxanes
 (Me; polymn. of 1-olefins using transition metal compds.
catalysts)
 IT Polymerization **catalysts**
 (polymn. of 1-olefins using transition metal compds.
catalysts)
 IT Transition metal complexes
 (polymn. of 1-olefins using transition metal compds.
catalysts)
 IT Polyolefins
 (polymn. of 1-olefins using transition metal compds.
catalysts)
 IT 75-24-1, Trimethylaluminum 97-93-8,
 Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
 207129-93-9 207129-94-0 207129-95-1
 207129-96-2 207129-97-3 210537-35-2

210768-87-9 221391-06-6 221391-08-8

221391-12-4 221391-13-5 221391-15-7

221391-20-4

(polymn. of 1-olefins using transition metal compds.
catalysts)

IT 204203-10-1P

(polymn. of 1-olefins using transition metal compds.
catalysts)

IT 9002-88-4P, Polyethylene

(polymn. of 1-olefins using transition metal compds.
catalysts)

IT 88-05-1, 2,4,6-Trimethylaniline 1129-30-2, 2,6-Diacetylpyridine
7758-94-3, Iron dichloride

(starting material; prepn. of transition metal compds.
catalysts for polymn. of 1-olefin)

IT 1314-23-4, Zirconia, uses 1344-28-1, Alumina,

uses 7631-86-9, ES 70X, uses 7786-30-3, Magnesium
chloride, uses 9003-07-0, Polypropylene 9003-53-6, Polystyrene
9060-90-6, Poly(aminostyrene)

(support; polymn. of 1-olefins using transition metal compds.
catalysts)

L54 ANSWER 9 OF 9 HCA COPYRIGHT 2003 ACS on STN

132:265600 Supported bidentate and tridentate transition-metal complex
catalyst compositions and olefin polymerization using same.

Shih, Keng-yu (W.R. Grace & Co.-Conn, USA). PCT Int. Appl. WO

2000020467 A1 20000413, 70 pp. DESIGNATED STATES: W: AE,
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,
NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG,
UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE,
BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE,
IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN:
PIXXD2. APPLICATION: WO 1999-US22580 19991001. PRIORITY: US
1998-166545 19981005.

AB **Catalyst** compns. comprising an anionic-metalloid-silane-
modified inorg. oxide and the cationic remnant of a transition metal
bidentate or tridentate compd. are useful in the manuf. of olefin
homopolymers having high polydispersity and wt.-av. mol. wt. and
olefin copolymers having pendant functional groups. A typical
catalyst compn. was manufd. by calcining **silica**
having av. particle size 6 .mu.m, surface area 300 m2/g, and pore
vol. 1.6 cm3/g at 800.degree., shaking a pentane slurry of this
silica with PhSiH3 12 h under Ar, filtering, washing with
pentane, drying, calcining at 400.degree., shaking a heptane slurry
of the resulting PhSiH3-modified **silica** 12 h with a PhMe
soln. of (iso-Bu)3Al, filtering, washing with pentane, drying in
vacuo, calcining at 400.degree., heating a PhMe slurry of the
resulting (iso-Bu)3Al-treated, PhSiH3-modified **silica** 3 h
at 70.degree. with [PhMe2NH][(C6F5)3B(C6H4-p-C6H4-p-OH)] under Ar,
filtering at 70.degree., washing with PhMe at 70.degree., drying

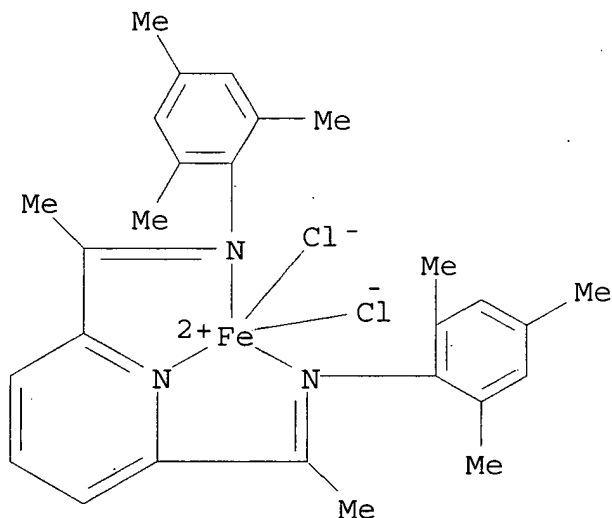
.gtoreq.3 h at 50.degree., shaking the resulting support with a heptane soln. contg. (iso-Bu)₃Al and 2,6-bis[1-(2,4,6-trimethylphenylimino)ethyl]pyridineiron dichloride **catalyst** 3-12 h, filtering, washing with PhMe and heptane, and drying in vacuo under Ar.

IT 207129-94-0

(bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)

RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME).

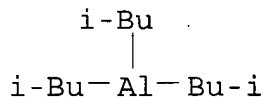


IT 100-99-2, Triisobutylaluminum, uses

(cocatalyst; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)

RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



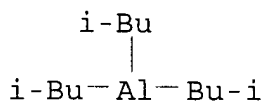
IT 100-99-2DP, Triisobutylaluminum, reaction products with silica silanes, and borate salts 7631-86-9DP,

Silica, reaction products with silanes, triisobutylaluminum, and borate salts, preparation

(support; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)

RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F004-603

ICS C08F004-70; C08F010-02

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST supported bidentate transition metal complex **catalyst**
olefin polymn; fluorophenyl hydroxybiphenyl borate
phenyldimethylammonium treated **silica** support polymn
catalyst; **silica** phenylsilane isobutylaluminum
modified support **catalyst** olefin polymn; tridentate
transition metal complex supported **catalyst** olefin polymn

IT Polymerization **catalysts**
(bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

IT Transition metal compounds
(bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

IT Polyolefins
(bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

IT Group IIIA element compounds
(reaction products, with modified oxides, supports; bidentate and
tridentate transition-metal complex **catalysts** supported
on Group IIIA element compd.-modified oxides for olefin polymn.)

IT Oxides (inorganic), preparation
(reaction products, with silanes and Group IIIA element compds.;
bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

IT 207129-94-0
(bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

IT 9002-88-4P, Polyethylene
(bidentate and tridentate transition-metal complex
catalysts supported on Group IIIA element compd.-modified
oxides for olefin polymn.)

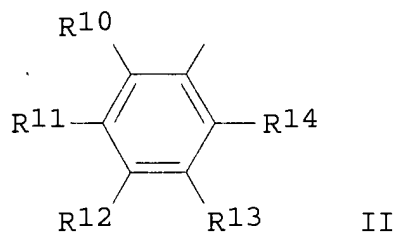
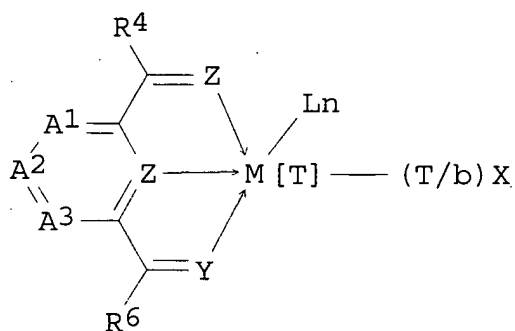
- IT 100-99-2, Triisobutylaluminum, uses
(cocatalyst; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)
- IT 191848-37-0P 191848-40-5P 191848-43-8P
(support modification compd. precursor; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)
- IT 999-97-3, 1,1,1,3,3,3-Hexamethyldisilazane 1109-15-5,
Tris(pentafluorophenyl)borane 5882-44-0, Dimethylaniline
hydrochloride 7439-95-4, Magnesium, reactions 29558-77-8,
4-Bromo-4'-hydroxybiphenyl
(support modification compd. precursor; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)
- IT 263413-58-7P
(support modification compd.; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)
- IT 100-99-2DP, Triisobutylaluminum, reaction products with **silica** silanes, and borate salts 694-53-1DP, Phenylsilane, reaction products with **silica** triisobutylaluminum, and borate salts 7631-86-9DP, **Silica**, reaction products with silanes, triisobutylaluminum, and borate salts, preparation 15933-59-2DP, Bis(Dimethylsilyl)amine, reaction products with **silica** triisobutylaluminum, and borate salts 263413-58-7DP, reaction products with **silica** silanes, and triisobutylaluminum
(support; bidentate and tridentate transition-metal complex **catalysts** supported on Group IIIA element compd.-modified oxides for olefin polymn.)

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L55 ANSWER 1 OF 4 HCA COPYRIGHT 2003 ACS on STN

135:304268 1-Olefin polymerization **catalyst**. Kimberley, Brian
Stephen (Bp Chemicals Limited, UK). PCT Int. Appl. WO 2001074830 A1
20011011, 28 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,
EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA,
GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
(English). CODEN: PIXXD2. APPLICATION: WO 2001-GB1260 20010322.
PRIORITY: GB 2000-7764 20000330.

GI

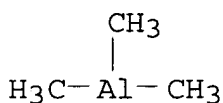


AB A **catalyst** for the polymn. of 1-olefins is disclosed, comprising a complex having the Formula (I) wherein M = transition metal, lanthanide, or actinide; X = atom or group covalently or ionically bonded to the transition metal M; T = oxidn. state of the transition metal M; b = valency of the atom or group X; Z = O or NR₅; Y = O or NR₇; L = group datively bound to M, and n = 0-5; A₁₋₃ = each independently N, P, or CR, with the proviso that at least one is CR, R, R₅, and R₇ = each independently selected from H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, substituted heterohydrocarbyl, or SiR'₃ where each R' = independently selected from H, halogen hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl and substituted heterohydrocarbyl; and R₄ and R₆ = each independently a substituent of (II), wherein R₁₀₋₁₄ = each independently selected from H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, substituted heterohydrocarbyl, or SiR'₃ where each R' = independently selected from H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl, and substituted heterohydrocarbyl, subject to the proviso that at least one of R₁₀ and R₁₄ is, not H.

IT **75-24-1**, Trimethylaluminum **97-93-8**, Triethylaluminum, uses **100-99-2**, Triisobutylaluminum, uses **1070-00-4**, Tri-n-octylaluminum (activator; prepn. of 1-Olefin polymn. **catalyst**)

RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

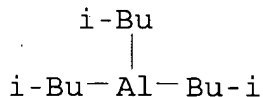


RN 97-93-8 HCA

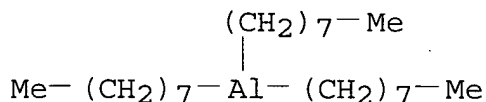
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



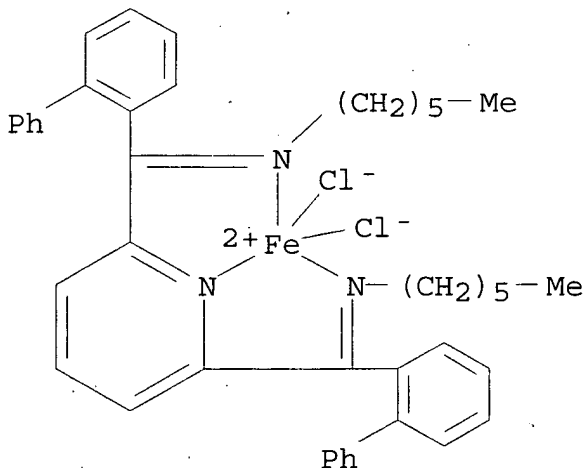
RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

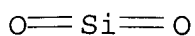


IT 365565-09-9P
 (prepn. of 1-Olefin polymn. **catalyst**)
 RN 365565-09-9 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis([1,1'-biphenyl]-2-ylmethylidyne)]bis[1-hexanamine-.kappa.N]]- (9CI) (CA INDEX NAME)



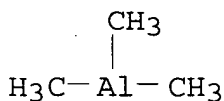
IT 1344-28-1, Alumina, uses 7631-86-9,
 Silica, uses
 (support; prepn. of 1-Olefin polymn. **catalyst**)
 RN 1344-28-1 HCA
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)
 *** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

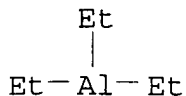


IC ICM C07F015-02
ICS C08F004-60; C08F004-70; C08F010-00
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29
ST olefin polymn **catalyst** transition metal complex prepn
IT Aluminoxanes
(Me, activator; prepn. of 1-Olefin polymn. **catalyst**)
IT Aldehydes, uses
Alkenes, uses
Alkynes
Amides, uses
Esters, uses
Ethers, uses
Ketones, uses
Lewis bases
Nitriles, uses
Phosphines
Phosphites
Sulfones
Sulfoxides
Thioethers
(activator; prepn. of 1-Olefin polymn. **catalyst**)
IT Polymerization **catalysts**
(prepn. of 1-Olefin polymn. **catalyst**)
IT Polyolefins
(prepn. of 1-Olefin polymn. **catalyst**)
IT Amines, uses
(primary, activator; prepn. of 1-Olefin polymn. **catalyst**)
IT Amines, uses
(secondary, activator; prepn. of 1-Olefin polymn. **catalyst**)
IT Amines, uses
(tertiary, activator; prepn. of 1-Olefin polymn. **catalyst**)
IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum
chloride, uses 97-93-8, Triethylaluminum, uses
100-99-2, Triisobutylaluminum, uses 124-38-9, Carbon
dioxide, uses 289-56-5, Boroxine 563-43-9, Ethylaluminum
dichloride, uses 630-08-0, Carbon monoxide, uses 917-65-7,
Methylaluminum dichloride 1070-00-4, Tri-n-octylaluminum
1184-58-3, Dimethylaluminum chloride 12075-68-2,
Ethylaluminumsesquichloride 12542-85-7,
Methylaluminumsesquichloride 13597-72-3, Phosphoramidate
(activator; prepn. of 1-Olefin polymn. **catalyst**)
IT 82214-69-5P
(**catalyst** prepn.; prepn. of 1-Olefin polymn.)

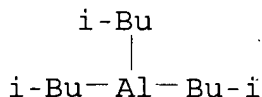
- catalyst)**
 IT 2052-07-5
 (**catalyst**; prepn. of 1-Olefin polymn. **catalyst**
)
 IT 7440-42-8, Boron, uses
 (hydrocarbyl, activator; prepn. of 1-Olefin polymn.
 catalyst)
 IT 7429-90-5, Aluminum, uses
 (organo, activator; prepn. of 1-Olefin polymn. **catalyst**
)
 IT 365565-09-9P
 (prepn. of 1-Olefin polymn. **catalyst**)
 IT 9002-88-4P, Ethylene homopolymer
 (prepn. of 1-Olefin polymn. **catalyst**)
 IT 53633-03-7P 365550-48-7P 365550-50-1P
 (prepn. of 1-Olefin polymn. **catalyst**)
 IT 111-26-2, Hexylamine 506-59-2, Dimethylamine, hydrochloride
 3739-94-4, 2,6-Pyridinedicarbonyl dichloride 7758-94-3, Iron(II)
 chloride
 (prepn. of 1-Olefin polymn. **catalyst**)
 IT 1314-23-4, Zirconia, uses 1344-28-1, Alumina,
 uses 7631-86-9, Silica, uses 7786-30-3,
 Magnesium chloride, uses 9003-07-0, Polypropylene 9003-53-6,
 Polystyrene 9060-90-6, Poly(aminostyrene)
 (support; prepn. of 1-Olefin polymn. **catalyst**)
- L55 ANSWER 2 OF 4 HCA COPYRIGHT 2003 ACS on STN
 135:304267 Production of supported **catalysts** for
 polymerization of olefins. Kristen, Marc Oliver; Hauck, Gerhard;
 Gonioukh, Andrei; Sueling, Carsten; Spaether, Wolf (BASF AG,
 Germany). Ger. Offen. DE 10017666 A1 20011011, 24 pp. (German).
 CODEN: GWXXBX. APPLICATION: DE 2000-10017666 20000408.
 AB Supported **catalysts** for polymn. of olefins are manufd. by
 depositing transition metal complexes of 5- or 6-membered-ring-based
 heterocyclic compds. and activators based on Group IIIA element
 compds. on water-free, porous supports.
 IT 75-24-1, Trimethylaluminum 97-93-8,
 Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
 (cocatalyst; prodn. of **catalysts** based on supported
 mixts. of transition metal complexes of five- or six-membered
 ring-based heterocyclic compds. and Group IIIA element compds.
 for polymn. of olefins)
 RN 75-24-1 HCA
 CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



- RN 97-93-8 HCA
 CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)

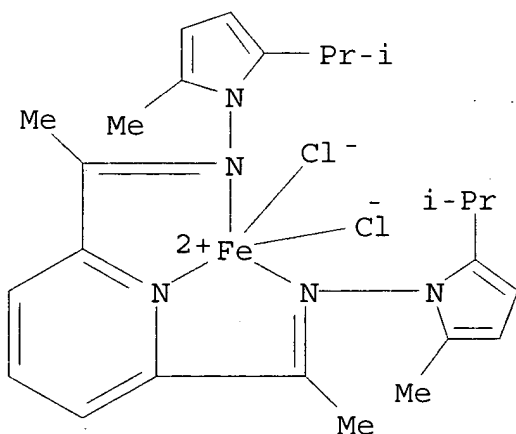


RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



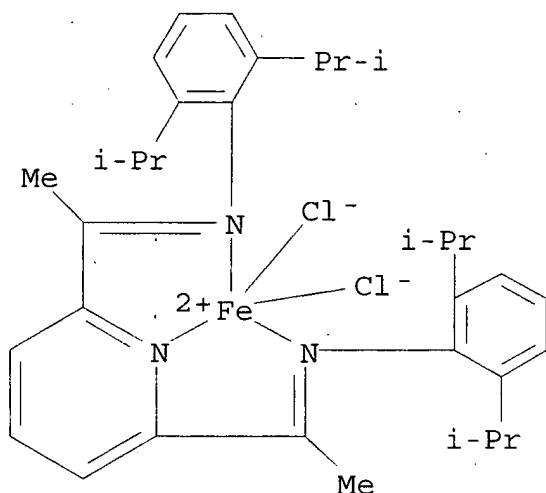
IT 328239-72-1
 (prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)

RN 328239-72-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-methyl-5-(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)-(9CI) (CA INDEX NAME)

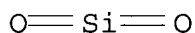


IT 204203-10-1P
 (prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)

RN 204203-10-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



IT 7631-86-9, **Silica**, uses
 (support; prodn. of **catalysts** based on supported mixts.
 of transition metal complexes of five- or six-membered ring-based
 heterocyclic compds. and Group IIIA element compds. for polymn.
 of olefins)
 RN 7631-86-9 HCA
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F004-42
 ICS C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST supported **catalyst** transition metal heterocyclic compd
 complex polymn olefin
 IT Polymerization **catalysts**
 (prodn. of **catalysts** based on supported mixts. of
 transition metal complexes of five- or six-membered ring-based
 heterocyclic compds. and Group IIIA element compds. for polymn.
 of olefins)
 IT Group IIIA element compounds
 Transition metal complexes
 (prodn. of **catalysts** based on supported mixts. of
 transition metal complexes of five- or six-membered ring-based
 heterocyclic compds. and Group IIIA element compds. for polymn.
 of olefins)
 IT Polyolefins
 (prodn. of **catalysts** based on supported mixts. of
 transition metal complexes of five- or six-membered ring-based
 heterocyclic compds. and Group IIIA element compds. for polymn.
 of olefins)

- IT 204203-14-5P
(**catalyst** precursor; prodn. of **catalysts**
based on supported mixts. of transition metal complexes of five-
or six-membered ring-based heterocyclic compds. and Group IIIA
element compds. for polymn. of olefins)
- IT 1129-30-2, 2,6-Diacetylpyridine 24544-04-5, 2,6-Diisopropylaniline
(**catalyst** precursor; prodn. of **catalysts**
based on supported mixts. of transition metal complexes of five-
or six-membered ring-based heterocyclic compds. and Group IIIA
element compds. for polymn. of olefins)
- IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
(cocatalyst; prodn. of **catalysts** based on supported
mixts. of transition metal complexes of five- or six-membered
ring-based heterocyclic compds. and Group IIIA element compds.
for polymn. of olefins)
- IT 73364-10-0, Bis(butylcyclopentadienyl)zirconium dichloride
118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate
328239-72-1
(prodn. of **catalysts** based on supported mixts. of
transition metal complexes of five- or six-membered ring-based
heterocyclic compds. and Group IIIA element compds. for polymn.
of olefins)
- IT 204203-10-1P
(prodn. of **catalysts** based on supported mixts. of
transition metal complexes of five- or six-membered ring-based
heterocyclic compds. and Group IIIA element compds. for polymn.
of olefins)
- IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene-1-hexene copolymer
(prodn. of **catalysts** based on supported mixts. of
transition metal complexes of five- or six-membered ring-based
heterocyclic compds. and Group IIIA element compds. for polymn.
of olefins)
- IT 7631-86-9, Silica, uses
(support; prodn. of **catalysts** based on supported mixts.
of transition metal complexes of five- or six-membered ring-based
heterocyclic compds. and Group IIIA element compds. for polymn.
of olefins)
- L55 ANSWER 3 OF 4 HCA COPYRIGHT 2003 ACS on STN
135:304266 Production of supported **catalysts** for
polymerization of olefins. Kristen, Marc Oliver; Hauck, Gerhard
(BASF AG, Germany). Ger. Offen. DE 10017663 A1 20011011, 22 pp.
(German). CODEN: GWXXBX. APPLICATION: DE 2000-10017663 20000408.
- AB Supported **catalysts** for polymn. of olefins are manufd. by
depositing transition metal complexes of 5- or 6-membered-ring-based
heterocyclic compds. and activators based on Group IIIA element
compds. on porous supports contg. 2-10% water.
- IT 97-93-8, Triethylaluminum, uses 100-99-2,
Triisobutylaluminum, uses
(cocatalyst; prodn. of **catalysts** based on supported
mixts. of transition metal complexes of five- or six-membered

ring-based heterocyclic compds. and Group IIIA element compds.
for polymn. of olefins)

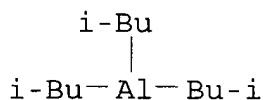
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)

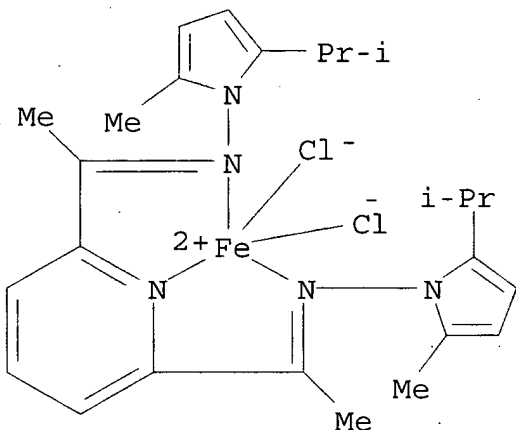


IT 328239-72-1

(prodn. of **catalysts** based on supported mixts. of
transition metal complexes of five- or six-membered ring-based
heterocyclic compds. and Group IIIA element compds. for polymn.
of olefins)

RN 328239-72-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2-methyl-5-(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)-
(9CI) (CA INDEX NAME)



IC ICM C08F004-42

ICS C08F010-00

CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67

ST supported **catalyst** transition metal heterocyclic compd
complex polymn olefin

IT Polymerization **catalysts**

(prodn. of **catalysts** based on supported mixts. of

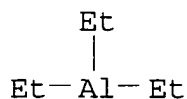
- transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT Group IIIA element compounds
Transition metal complexes
(prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT Polyolefins
(prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT Silica gel, uses
(support, ES 70X; prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
(cocatalyst; prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT 118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate
121009-93-6, Rac-Dimethylsilylenebis(indenyl)zirconium dichloride
328239-72-1
(prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene-1-hexene copolymer
(prodn. of **catalysts** based on supported mixts. of transition metal complexes of five- or six-membered ring-based heterocyclic compds. and Group IIIA element compds. for polymn. of olefins)
- L55 ANSWER 4 OF 4 HCA COPYRIGHT 2003 ACS on STN
- 129:122973 Polymerization of ethylene with specific iron or cobalt complexes, novel pyridinebis(imines) and novel complexes of pyridinebis(imines) with iron and cobalt. Bennett, Alison Margaret Anne (E.I. Du Pont de Nemours and Co., USA). PCT Int. Appl. WO 9827124 A1 19980625, 68 pp. DESIGNATED STATES: W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GW, HU, ID, IL, IS, JP, KG, KP, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US23556 19971216. PRIORITY: US 1996-33656 19961217.
- AB Ethylene may be polyemd. by contacting it with certain iron or cobalt

complexes of selected 2,6-pyridinecarboxaldehydebis(imines) and 2,6-diacetylpyridinebis(imines). The polymers produced are useful as molding resins. Novel 2,6-pyridinecarboxaldehydebis(imines) and 2,6-diacetylpyridinebis(imines), and novel complexes of 2,6-pyridinecarboxaldehydebis(imines) and 2,6-diacetylpyridinebis(imines) with iron and cobalt are also disclosed.

IT 97-93-8, Triethylaluminum, uses
(co-catalyst; prepn. of pyridinebis(imine) complex
catalysts for ethylene polymn.)

RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)

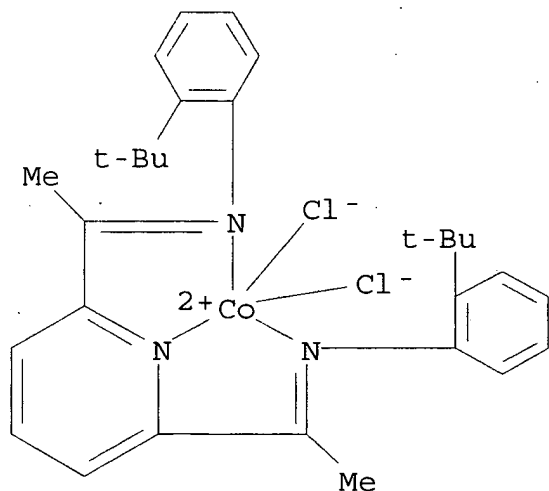


IT 204203-12-3P 210155-44-5P 210155-45-6P
210155-46-7P 210155-47-8P 210155-49-0P
210155-52-5P

(prepn. and catalytic activity in ethylene polymn. of)

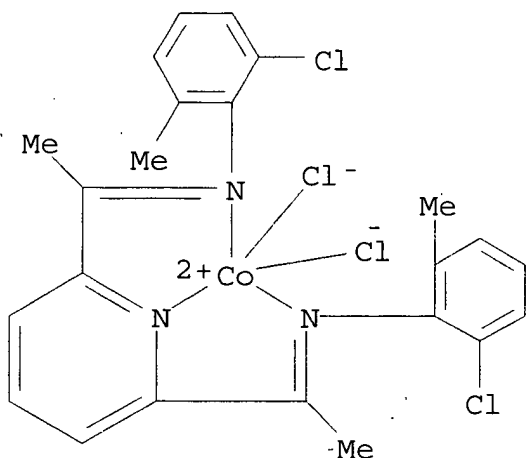
RN 204203-12-3 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



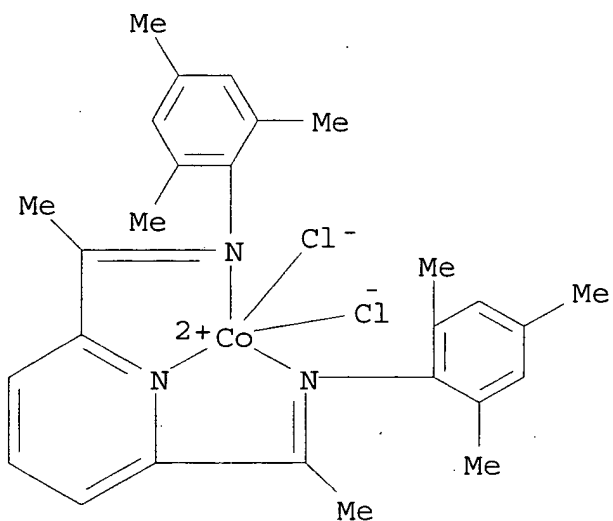
RN 210155-44-5 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-chloro-6-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



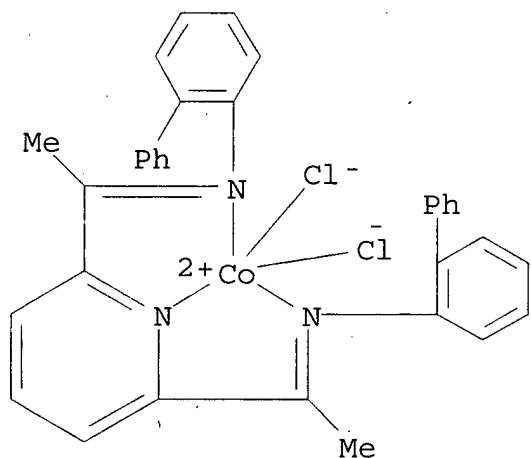
RN 210155-45-6 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethyldiyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)

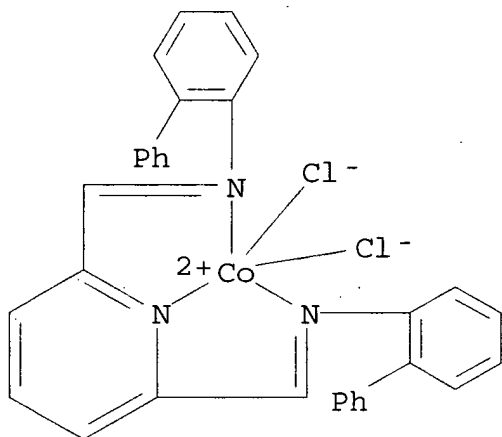


RN 210155-46-7 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethyldiyne]bis[[1,1'-biphenyl]-2-amine-.kappa.N]]-(9CI) (CA INDEX NAME)



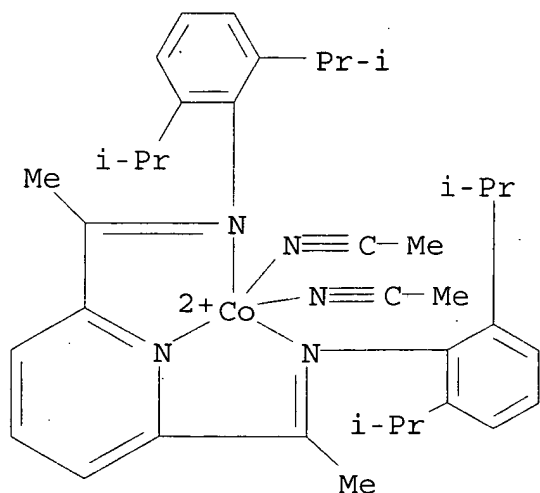
RN 210155-47-8 HCA
 CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[[1,1'-biphenyl]-2-amine-.kappa.N]]- (9CI)
 (CA INDEX NAME)



RN 210155-49-0 HCA
 CN Cobalt(2+), bis(acetonitrile)[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, bis[tetrafluoroborate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 210155-48-9
 CMF C37 H49 Co N5
 CCI CCS

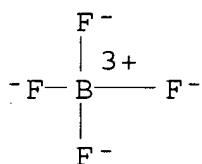


CM 2

CRN 14874-70-5

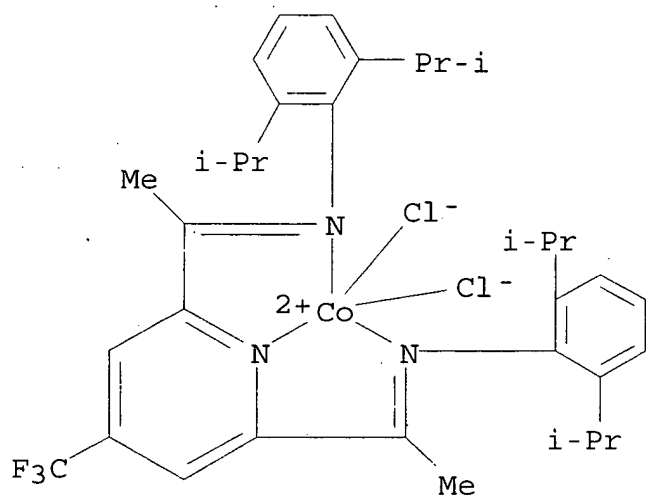
CMF B F4

CCI CCS



RN 210155-52-5 HCA

CN Cobalt, dichloro[N,N'-[[4-(trifluoromethyl)-2,6-pyridinediyl-.kappa.N]diethyldiyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

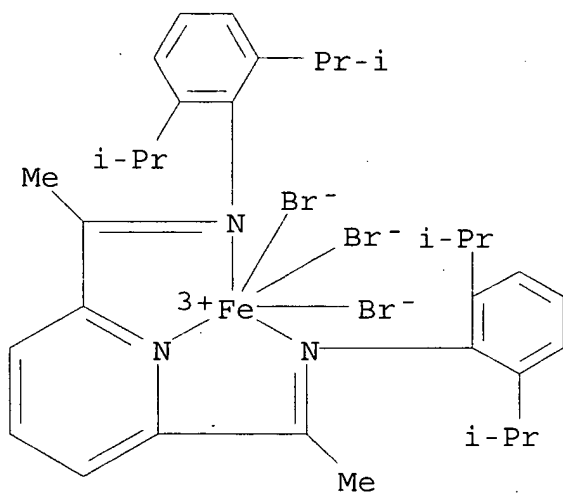


IT 210155-43-4P

(prepn. and crystal structure and **catalytic** activity in ethylene polymn. of)

RN 210155-43-4 HCA

CN Iron, tribromo[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (OC-6-32)-(9CI) (CA INDEX NAME)

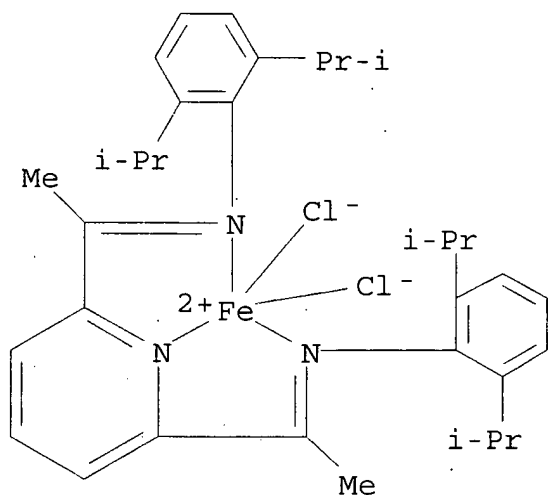


IT 204203-10-1P 207129-97-3P

(prepn. and crystal structure and **catalytic** activity in ethylene polymn. of)

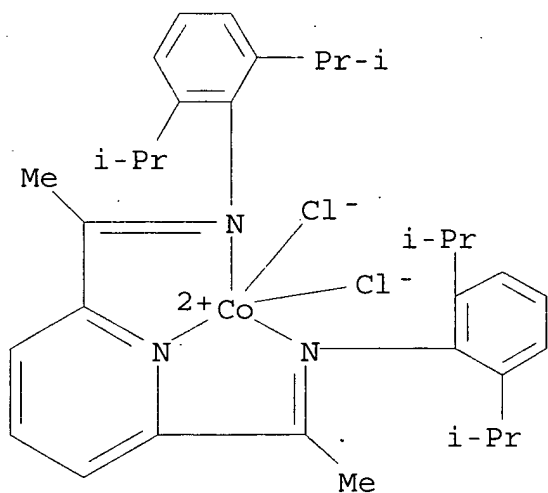
RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



RN 207129-97-3 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)

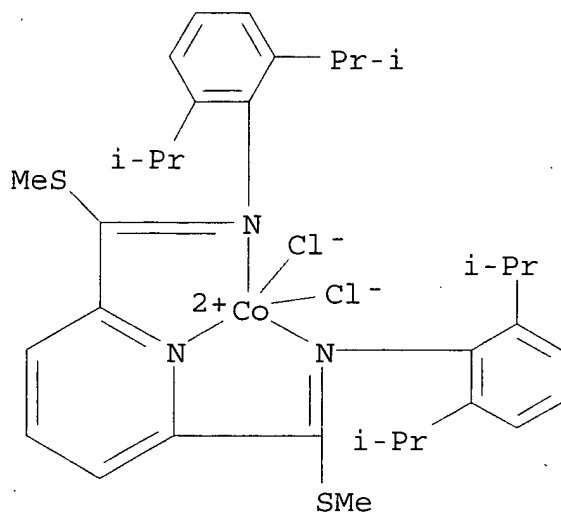


IT 210155-56-9P 210155-58-1P

(prep. of pyridinebis(imine) complex **catalysts** for ethylene polymn.)

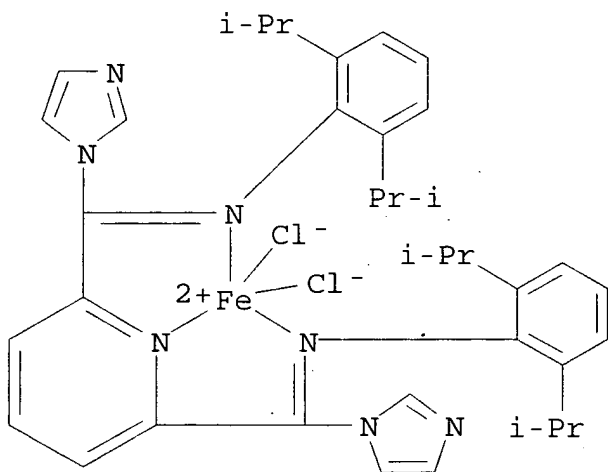
RN 210155-56-9 HCA

CN Cobalt, dichloro[dimethyl N,N'-bis[2,6-bis(1-methylethyl)phenyl]-2,6-pyridinedicarboximidothioato-.kappa.N1,.kappa.N2,.kappa.N6]- (9CI) (CA INDEX NAME)



RN 210155-58-1 HCA

CN Iron, dichloro[1,1'-[(2,6-pyridinediyl-.kappa.N)bis[[2,6-bis(1-methylethyl)phenyl]carbonimidoyl-.kappa.N]]bis[1H-imidazole]]- (9CI)
(CA INDEX NAME)

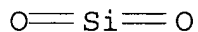


IT 7631-86-9, Silica, uses

(support for MAO co-catalyst; prepn. of
pyridinebis(imine) complex catalysts for ethylene
polymn.)

RN 7631-86-9 HCA

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F010-00

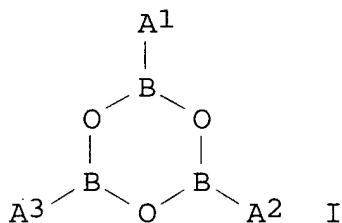
ICS C07F015-02; C07F015-06; C07D213-53
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 67, 78
ST cobalt pyridinebisimine complex **catalyst** ethylene polymn;
iron pyridinebisimine complex **catalyst** ethylene polymn;
polyethylene prodn pyridinebisimine complex polymn **catalyst**
IT Aluminoxanes
(Me, co-**catalysts**; prepn. of pyridinebis(imine) complex
catalysts for ethylene polymn.)
IT Crystal structure
(of pyridinebis(imine) complexes with iron and cobalt used as
catalysts for ethylene polymn.)
IT Polymerization **catalysts**
(pyridinebis(imine) complexes with iron and cobalt; prepn. of
pyridinebis(imine) complex **catalysts** for ethylene
polymn.)
IT 96-10-6, Diethylaluminum chloride, uses 97-93-8,
Triethylaluminum, uses
(co-**catalyst**; prepn. of pyridinebis(imine) complex
catalysts for ethylene polymn.)
IT 9002-88-4P
(polymn. of ethylene with iron or cobalt pyridinebis(imine)
complex **catalysts**)
IT 204203-12-3P 210155-44-5P 210155-45-6P
210155-46-7P 210155-47-8P 210155-49-0P
210155-52-5P
(prepn. and **catalytic** activity in ethylene polymn. of)
IT 210155-43-4P
(prepn. and crystal structure and **catalytic** activity in
ethylene polymn. of)
IT 204203-10-1P 207129-97-3P
(prepn. and crystal structure and **catalytic** activity in
ethylene polymn. of)
IT 210155-50-3P 210155-53-6P 210155-56-9P
210155-58-1P
(prepn. of pyridinebis(imine) complex **catalysts** for
ethylene polymn.)
IT 204203-14-5P 204203-17-8P 210155-39-8P 210155-40-1P
210155-42-3P
(prepn. of pyridinebis(imine) complex **catalysts** for
ethylene polymn.)
IT 210155-54-7P 210155-55-8P 210155-57-0P
(prepn. of pyridinebis(imine) complex **catalysts** for
ethylene polymn.)
IT 87-63-8, 2-Chloro-6-methylaniline 88-05-1, 2,4,6-Trimethylaniline
90-41-5, 2-Aminobiphenyl 1129-30-2, 2,6-Diacetylpyridine
3739-94-4, 2,6-Pyridinedicarbonyl dichloride 5188-07-8, Sodium
methanethiolate 5431-44-7, 2,6-Pyridinedicarboxaldehyde
5587-42-8, Imidazole sodium salt 6310-21-0, 2-tert-Butylaniline
7646-79-9, Cobalt dichloride, reactions 7758-94-3, Iron dichloride
10031-26-2, Iron tribromide 24544-04-5, 2,6-Diisopropylaniline
210155-41-2 210155-51-4

- (prepn. of pyridinebis(imine) complex **catalysts** for ethylene polymn.)
- IT 7631-86-9, **Silica**, uses
(support for MAO co-**catalyst**; prepn. of pyridinebis(imine) complex **catalysts** for ethylene polymn.)
- IT 14024-48-7, Cobaltbis(acetylacetonate)
(with diacetylpyridinebis(2,6-diisopropylphenylimine); prepn. of pyridinebis(imine) complex **catalysts** for ethylene polymn.)

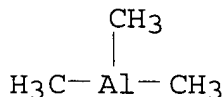
=> d 156 1-30 cbib abs hitstr hitind

L56 ANSWER 1 OF 30 HCA COPYRIGHT 2003 ACS on STN
136:341154 Process for the polymerization of alpha-olefins.
Radhakrishnan, Karunakaran; Cramail, Henri; Deffieux, Alain; Francois, Philippe (Solvay Polyolefins Europe - Belgium (Societe Anonyme), Belg.). Eur. Pat. Appl. EP 1201683 A1 20020502, 19 pp.
DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL. (French).
CODEN: EPXXDW. APPLICATION: EP 2000-203793 20001030.

GI

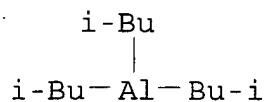


- AB Single-site **catalysts** for use in the polymn. of .alpha.-olefins in the absence of aluminoxanes contain a (a) .gtoreq.1 transition metal complex, (b) .gtoreq.1 trialkylaluminum, and (c) .gtoreq.1 boroxins I [A1-3 = (substituted) (cyclo)alkyl or (substituted) aryl], with the at. ratio of the B in I to the Al in (b) being <0.9.
- IT 75-24-1, Trimethylaluminum 100-99-2, Triisobutylaluminum, uses 204203-10-1 210768-87-9
(polymn. of alpha-olefins in presence of transition metal complexes, trialkylaluminum, and boroxins)
- RN 75-24-1 HCA
- CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



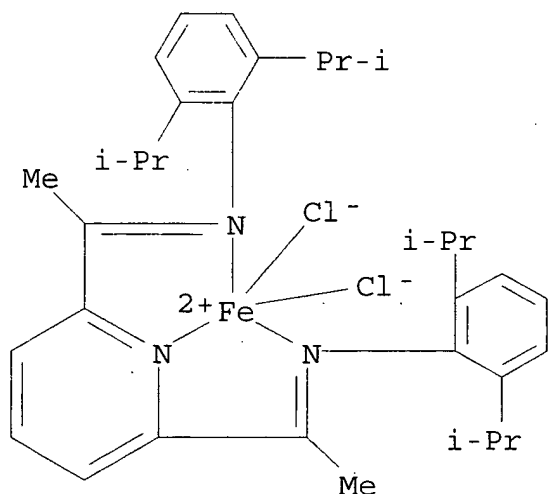
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



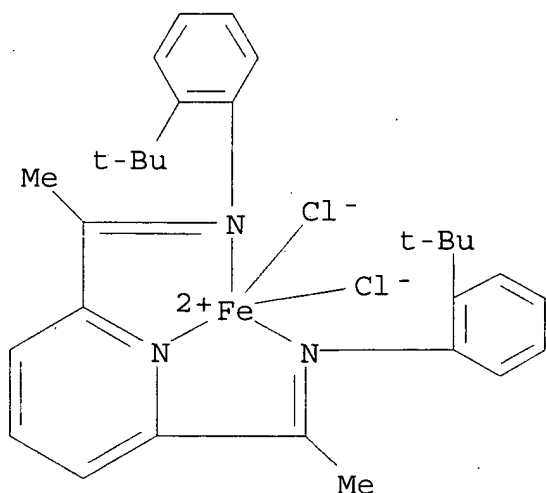
RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



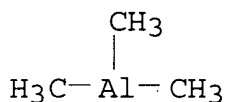
- IC ICM C08F010-00
ICS C08F004-70; C08F004-646
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST transition metal complex trialkylaluminum boroxin **catalyst**
olefin polymn
- IT Polymerization **catalysts**
(single-site; polymn. of alpha-olefins in presence of transition metal complexes, trialkylaluminum, and boroxins)
- IT **75-24-1**, Trimethylaluminum **100-99-2**,
Triisobutylaluminum, uses 102-24-9, Trimethoxyboroxin 823-96-1
112243-78-4, Ethylenebisindenylzirconium dichloride 163893-70-7
187541-23-7 **204203-10-1 210768-87-9**
(polymn. of alpha-olefins in presence of transition metal complexes, trialkylaluminum, and boroxins)
- L56 ANSWER 2 OF 30 HCA COPYRIGHT 2003 ACS on STN
135:344905 **Catalysts** containing n-pyrrolyl substituted nitrogen donors for olefin polymerization. Moody, Leslie Shane; MacKenzie, Peter Borden; Killian, Christopher Moore; Lavoie, Gino Georges; Ponasik, James Allen, Jr.; Smith, Thomas William; Pearson, Jason Clay; Barrett, Anthony Gerard Martin; Coates, Geoffrey William (Eastman Chemical Company, USA). PCT Int. Appl. WO 2001083571 A2 20011108, 355 pp. DESIGNATED STATES: W: CA, CN, JP, MX; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US13643 20010427. PRIORITY: US 2000-563812 20000503.
- AB **Catalyst** compns. useful for the polymn. or oligomerization of olefins, comprises a Ti, Zr, or Hf complex of a dianionic bidentate ligand, wherein at least one of the donor atoms of the ligand is a nitrogen atom substituted by a 1-pyrrolyl or 5 substituted 1-pyrrolyl group, wherein the remaining donor atoms of the ligand are selected from the group consisting of C, N, P, As, O,

S, and Se.

IT 75-24-1, Trimethylaluminum
(catalysts contg. n-pyrrolyl substituted nitrogen
donors for olefin polymn.)

RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT 289708-74-3P 289708-75-4P 289708-76-5P

289708-77-6P 289708-81-2P 289708-82-3P

289708-83-4P 289708-84-5P 289708-85-6P

289708-87-8P 289708-89-0P 289708-91-4P

289708-93-6P 289708-95-8P 289708-96-9P

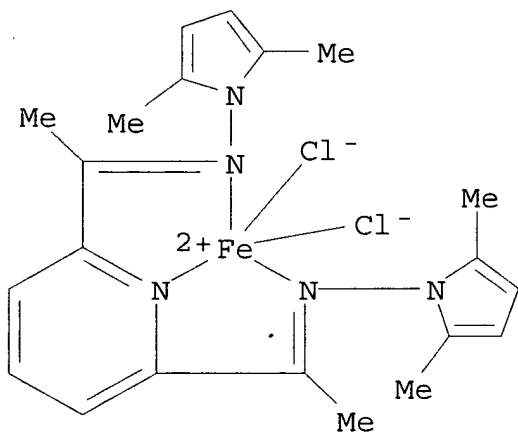
371971-47-0P 371971-48-1P 371971-49-2P

371971-50-5P 371971-51-6P

(catalysts contg. n-pyrrolyl substituted nitrogen
donors for olefin polymn.)

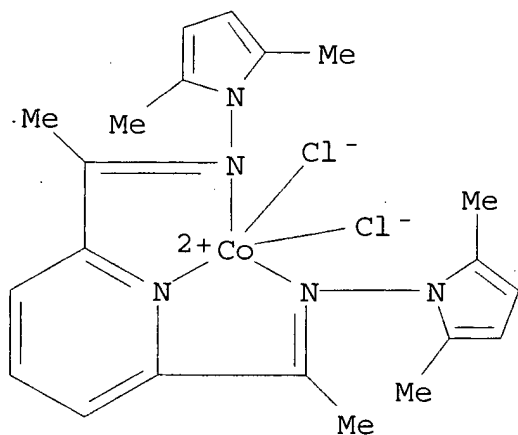
RN 289708-74-3 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,5-
dimethyl-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)- (9CI) (CA
INDEX NAME)



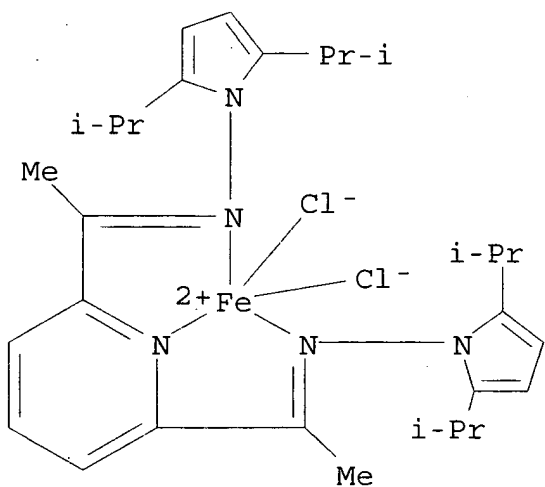
RN 289708-75-4 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-
.kappa.N)diethylidyne]bis[2,5-dimethyl-1H-pyrrol-1-amine-
.kappa.NN1]]-, (SP-5-31)- (9CI) (CA INDEX NAME)



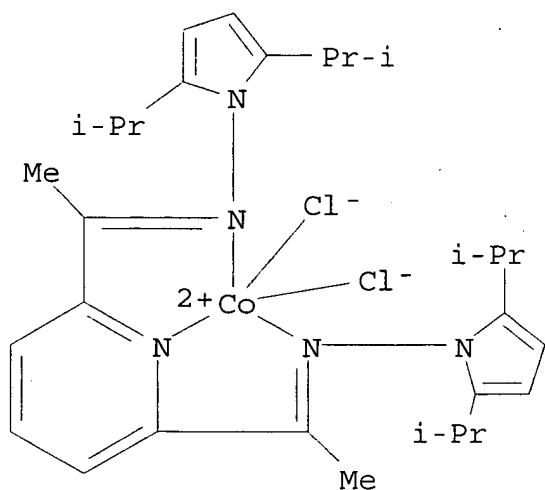
RN 289708-76-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,5-bis(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)- (9CI)
(CA INDEX NAME)



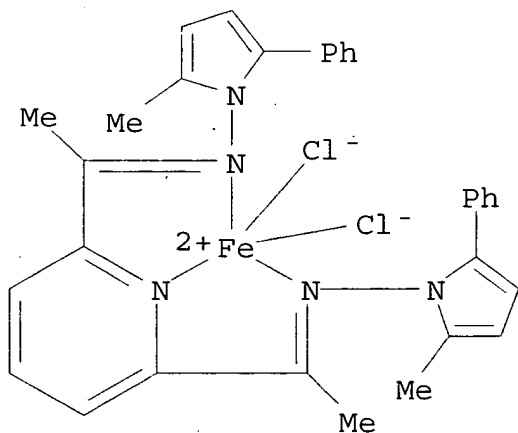
RN 289708-77-6 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,5-bis(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)- (9CI) (CA INDEX NAME)



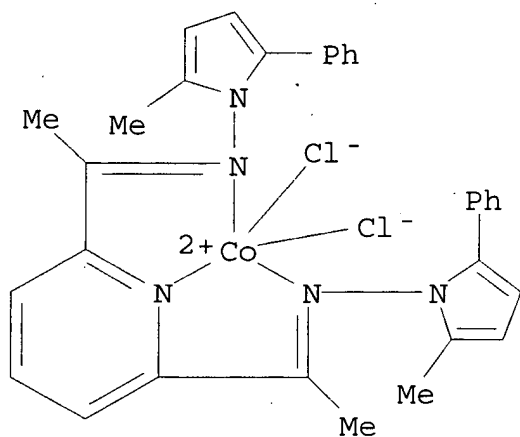
RN 289708-81-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethyldiyne]bis[2-methyl-5-phenyl-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)-(9CI)
(CA INDEX NAME)



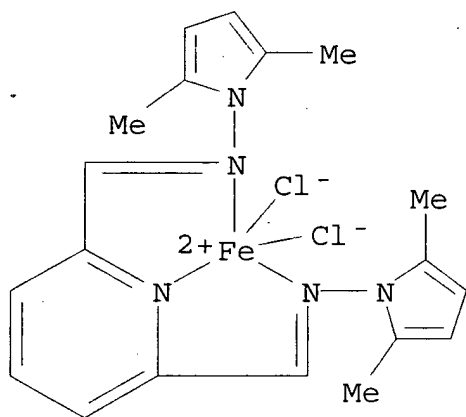
RN 289708-82-3 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethyldiyne]bis[2-methyl-5-phenyl-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)-(9CI)
(CA INDEX NAME)



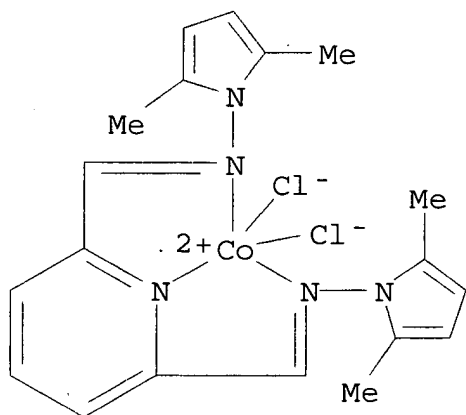
RN 289708-83-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,5-dimethyl-1H-pyrrol-1-amine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



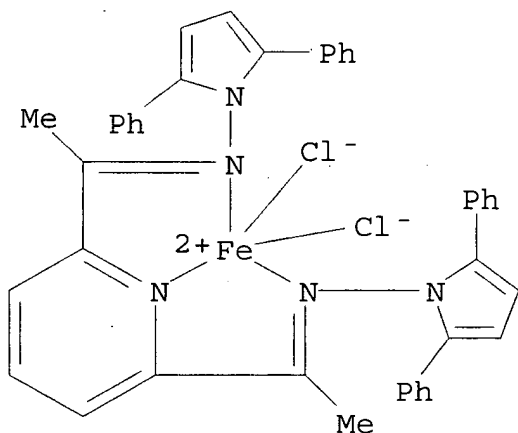
RN 289708-84-5 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,5-dimethyl-1H-pyrrol-1-amine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



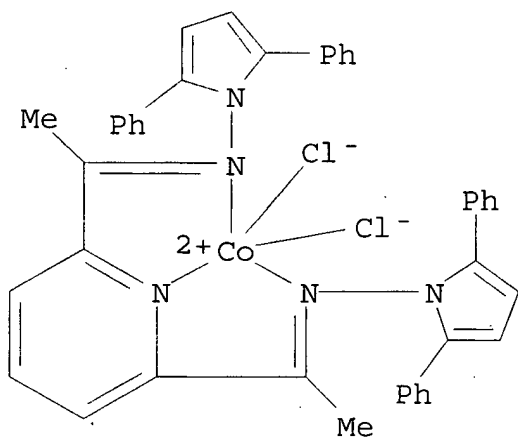
RN 289708-85-6 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,5-diphenyl-1H-pyrrol-1-amine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



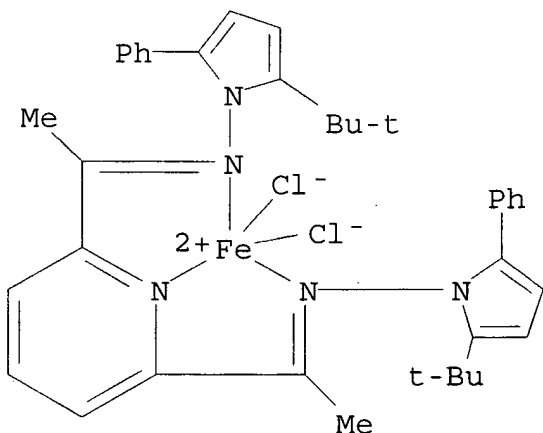
RN 289708-87-8 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,5-diphenyl-1H-pyrrol-1-amine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



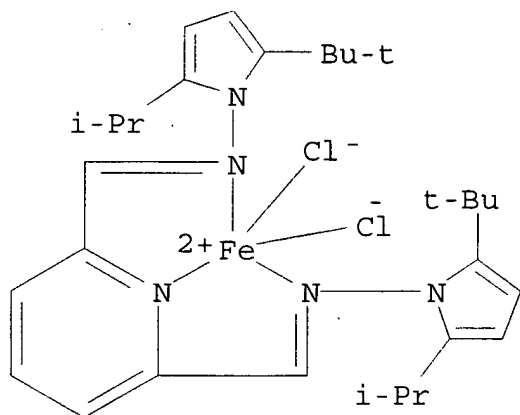
RN 289708-89-0 HCA

CN Iron, dichloro[N,N' - [(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)-5-phenyl-1H-pyrrol-1-amine-.kappa.NN1]] - (9CI)
(CA INDEX NAME)



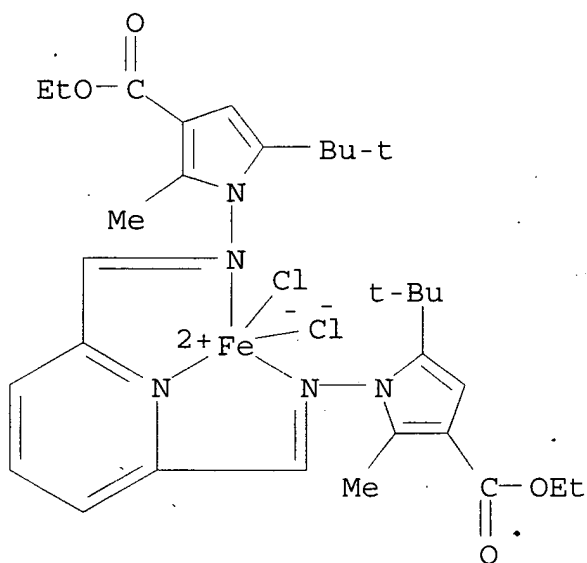
RN 289708-91-4 HCA

CN Iron, dichloro[N,N' - [(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2-(1,1-dimethylethyl)-5-(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]] - (9CI) (CA INDEX NAME)



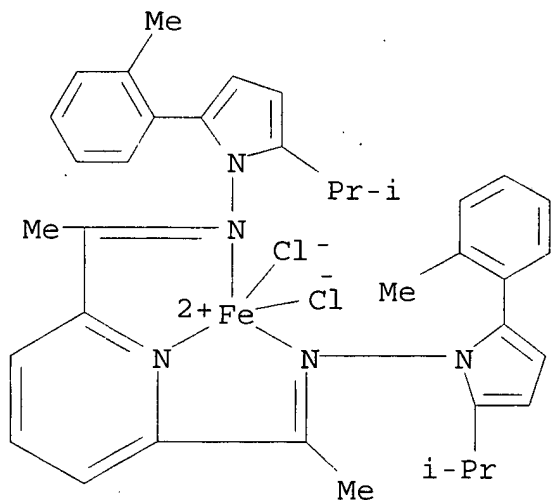
RN 289708-93-6 HCA

CN Iron, dichloro[diethyl 1,1'-[(2,6-pyridinediyl-.kappa.N)bis(methylidynenitrilo-.kappa.N)]bis[5-(1,1-dimethylethyl)-2-methyl-1H-pyrrole-3-carboxylate]]- (9CI) (CA INDEX NAME)



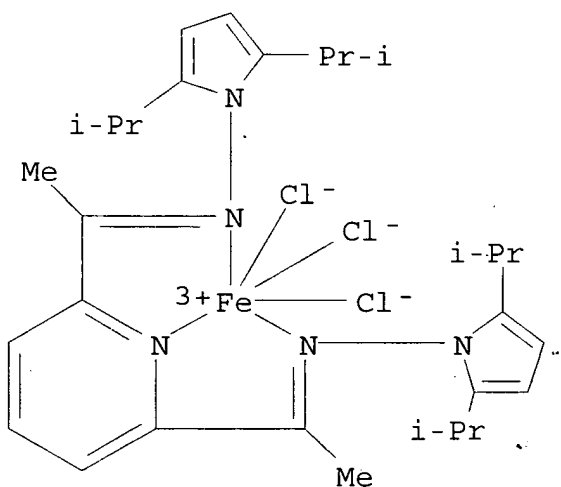
RN 289708-95-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1-methylethyl)-5-(2-methylphenyl)-1H-pyrrol-1-amine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



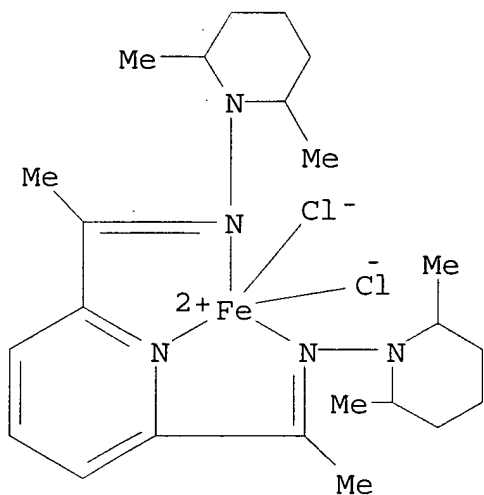
RN 289708-96-9 HCA

CN Iron, trichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,5-bis(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)- (9CI) (CA INDEX NAME)



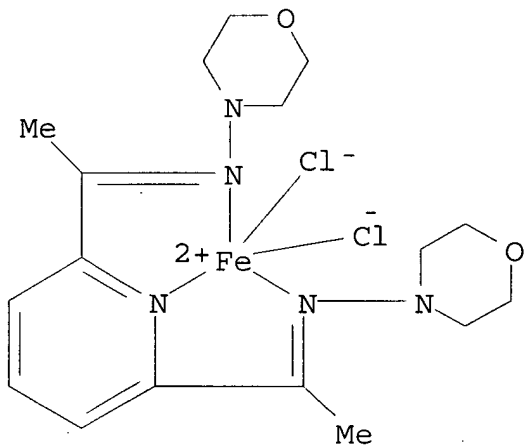
RN 371971-47-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,6-dimethyl-1-piperidinamine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



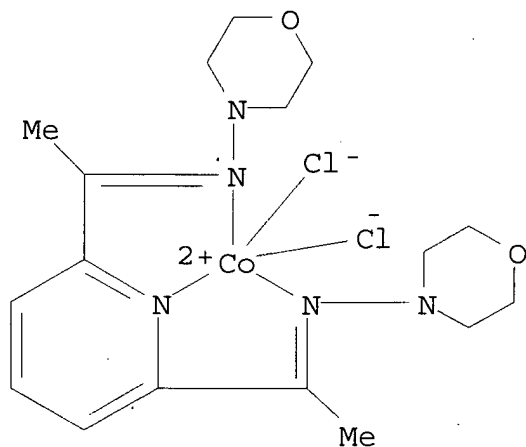
RN 371971-48-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[4-morpholinamine-.kappa.NN4]]-. (9Cl) (CA INDEX NAME)



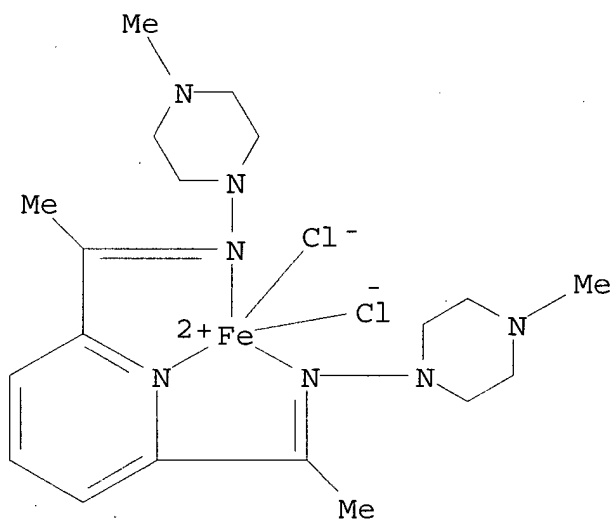
RN 371971-49-2 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[4-morpholinamine-.kappa.NN4]]-. (9Cl) (CA INDEX NAME)



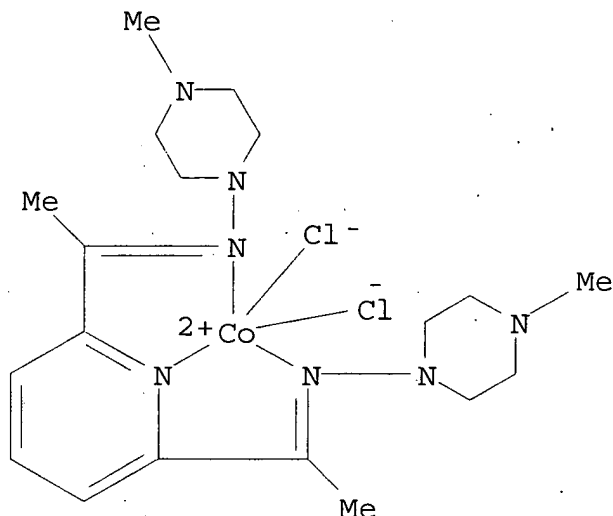
RN 371971-50-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-methyl-1-piperazinamine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



RN 371971-51-6 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-methyl-1-piperazinamine-.kappa.NN1]]- (9CI) (CA INDEX NAME)



- IC ICM C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST pyrrole **catalyst** olefin polymn
 IT Aluminoxanes
 (Me; **catalysts** contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)
 IT Aluminoxanes
 (alkyl Me; **catalysts** contg. n-pyrrolyl substituted
 nitrogen donors for olefin polymn.)
 IT Polymerization **catalysts**
 (**catalysts** contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)
 IT **75-24-1**, Trimethylaluminum 1109-15-5D,
 Tris(pentafluorophenyl)borane, reaction product with n-pyrrolyl
 substituted nitrogen donor ligands and cobalt or iron complexes
 1295-35-8D, Bis(1,5-cyclooctadiene)nickel, reaction product with
 N,N'-(1,2-dimethyl-1,2-ethanediylidene)bis(2,5-dimethyl-1H-pyrrol-1-
 amine) and B(C₆F₅)₃ 3275-24-9D, Tetrakis(dimethylamino)titanium,
 reaction product with 2,4-bis(1,1-dimethylethyl)-6-[(1H-pyrrol-1-
 ylimino)methyl]-phenol and Me₃SiCl 75180-85-7 289708-46-9D,
 reaction product with bis(1,5-cyclooctadiene)nickel and B(C₆F₅)₃
 289708-65-2 289708-70-9D, reaction product with Ti(NMe₂)₄ and
 Me₃SiCl 289709-17-7 289709-18-8 289709-29-1 289709-61-1
 371971-57-2 371971-59-4 371971-61-8 371971-63-0 371971-65-2
 371971-67-4 371971-69-6 371971-71-0 371971-73-2 371971-75-4
 371971-77-6 371971-79-8 371971-81-2 371971-83-4 371971-85-6
 371971-87-8 371971-92-5 371972-02-0 371972-04-2
 (**catalysts** contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)
 IT 1522-22-1DP, 1,1,1,5,5,5-Hexafluoroacetylacetone, complex with
 cobalt or iron and tridentate N-pyrrolyl substituted nitrogen donor
 ligands 7439-89-6DP, Iron, complex with tridentate N-pyrrolyl

substituted nitrogen donor ligands and acetylacetone or 1,1,1,5,5,5-hexafluoroacetylacetone, preparation 7440-48-4DP, Cobalt, complex with tridentate N-pyrrolyl substituted nitrogen donor ligands and acetylacetone or 1,1,1,5,5,5-hexafluoroacetylacetone, preparation

(**catalysts** contg. n-pyrrolyl substituted nitrogen donors for olefin polymn.)

IT 289708-47-0P 289708-64-1P 289708-69-6P 289708-71-0P
289709-60-0P 371971-94-7P 371971-96-9P

(**catalysts** contg. n-pyrrolyl substituted nitrogen donors for olefin polymn.)

IT 123-54-6DP, Acetylacetone, complex with cobalt or iron and tridentate N-pyrrolyl substituted nitrogen donor ligands
289708-53-8P 289708-54-9P 289708-55-0P 289708-60-7P
289708-72-1DP, complex with Fe and BF₄- 289708-72-1DP, reaction product with FeCl₃ and B(C₆F₅)₃ 289708-73-2DP, complex with cobalt and 1,1,1,5,5,5-hexafluoroacetylacetone **289708-74-3P**
289708-75-4P 289708-76-5P 289708-77-6P
289708-81-2P 289708-82-3P 289708-83-4P
289708-84-5P 289708-85-6P 289708-86-7DP, complex with cobalt or iron and acetylacetone or 1,1,1,5,5,5-hexafluoroacetylacetone **289708-87-8P** 289708-88-9DP, reaction product with Co(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]-
289708-88-9DP, reaction product with Fe(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]- **289708-89-0P 289708-91-4P**
289708-92-5DP, complex with iron or cobalt and acetylacetone or 1,1,1,5,5,5-hexafluoroacetylacetone **289708-93-6P**
289708-94-7DP, complex with Fe and BF₄- 289708-94-7DP, complex with cobalt and 1,1,1,5,5,5-hexafluoroacetylacetone 289708-94-7DP, reaction product with Co(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]-
289708-94-7DP, reaction product with FeCl₃ and B(C₆F₅)₃ **289708-95-8P 289708-96-9P** 289708-99-2DP, reaction product with Co(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]-
289709-00-8DP, reaction product with Co(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]- 289709-01-9DP, reaction product with Co(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]- 289709-01-9DP, reaction product with Fe(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]- 289709-02-0DP, reaction product with Fe(acac)₂ and [Ph₃C]+[B(C₆F₅)₄]- 289709-19-9P 289709-20-2P
289709-22-4P **371971-47-0P 371971-48-1P**
371971-49-2P 371971-50-5P 371971-51-6P
371972-09-7P

(**catalysts** contg. n-pyrrolyl substituted nitrogen donors for olefin polymn.)

IT 9002-88-4P, Polyethylene 25067-06-5P, Poly(1-Hexene)
25213-02-9P, Ethylene-1-hexene copolymer

(**catalysts** contg. n-pyrrolyl substituted nitrogen donors for olefin polymn.)

IT 39135-39-2, 1-Amino-2,6-dimethylpiperidine 289709-49-5
289709-50-8 289709-53-1 289709-54-2 289709-55-3 289709-56-4
371971-54-9 371971-55-0

(**catalysts** contg. n-pyrrolyl substituted nitrogen donors for olefin polymn.)

IT 786-98-1P 802-22-2P 62071-76-5P 103982-15-6P 181263-64-9P
 289708-49-2P 289708-59-4P 289708-62-9P 289708-66-3P
 289708-67-4P 289708-68-5P 289708-70-9P 289708-73-2P
 289708-99-2P 289709-00-8P 289709-01-9P 289709-02-0P
 289709-03-1P 289709-06-4P 289709-13-3P 289709-14-4P
 289709-15-5P 289709-16-6P 289709-24-6P 289709-31-5P
 289709-35-9P 289709-38-2P 289709-39-3P 289709-40-6P
 289709-44-0P 289709-45-1P 289709-46-2P 289709-47-3P
 289709-48-4P 289709-57-5P 289709-58-6P 371971-46-9P
 371971-89-0P 371971-90-3P 371971-97-0P 371971-98-1P
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

IT 25038-76-0P, Norbornene homopolymer 38453-93-9P, Ethyl
 2-acetyl-5,5-dimethyl-4-oxohexanoate 289708-50-5P 289708-51-6P
 289708-52-7P 289708-72-1P 289709-04-2P 289709-08-6P
 289709-10-0P 289709-12-2P 289709-37-1P 289709-43-9P
 371971-43-6P 371971-44-7P 371971-45-8P 371971-53-8P
 371971-99-2P 371972-00-8P
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

IT 289708-46-9P
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

IT 70-11-1, 2-Bromoacetophenone 79-37-8, Oxalyl chloride 90-02-8,
 Salicylaldehyde, reactions 100-63-0, Phenylhydrazine 141-97-9,
 Ethyl acetoacetate 431-03-8, 2,3-Butanedione 495-71-6,
 Dibenzoylthane 608-30-0, 2,6-Dibromoaniline 765-39-9,
 1-Aminopyrrole 765-71-9 870-46-2, tert-Butyl carbazate
 879-18-5, 1-Naphthoylchloride 943-27-1, 4'-tert-Butyl acetophenone
 961-38-6, 2,4,6-Tri-tert-butylaniline 1109-15-5,
 Tris(pentafluorophenyl)boron 1129-30-2, 2,6-Diacetylpyridine
 1295-35-8, Bis(1,5-cyclooctadiene)nickel 1875-48-5,
 N-Aminophthalimide 3042-24-8 4319-49-7, 4-Aminomorpholine
 5469-26-1, 1-Bromopinacolone 6148-64-7, Ethyl potassium malonate
 6928-85-4, 1-Amino-4-methylpiperazine 14024-17-0,
 Bis(acetylacetonato)iron 24544-04-5 28923-39-9 37942-07-7,
 3,5-Di-tert-butyl-2-hydroxybenzaldehyde 65158-40-9 128796-39-4,
 4-Trifluoromethylphenyl boronic acid 154876-20-7 180723-74-4
 187605-76-1 210096-14-3 289708-48-1 289708-63-0 289708-78-7
 289708-79-8 289709-05-3 289709-09-7 289709-33-7 289709-36-0
 371971-52-7
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

IT 289708-56-1P 289709-41-7P 289709-42-8P 371971-88-9P
 371972-05-3P 371972-06-4P 371972-07-5P
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

IT 5317-66-8
 (catalysts contg. n-pyrrolyl substituted nitrogen
 donors for olefin polymn.)

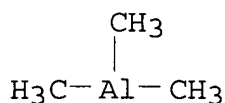
135:289197 Procedure for the production of a **catalyst** system for the polymerization of olefins. Kristen, Marc Oliver; Hauck, Gerhard (BASF AG, Germany). Ger. Offen. DE 10017660 A1 20011011, 14 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2000-10017660 20000408.

AB **Catalysts** for polymn. of olefins are manufd. by mixing transition metal complexes of 5- or 6-membered heterocyclic compds. with activators based on Group IIIA compds. and then adding alkylating agents based on organolithium, organomagnesium or organoaluminum compds.

IT 75-24-1, Trimethylaluminum 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 102-67-0, Tripropylaluminum 1116-70-7, Tributylaluminum 1116-73-0, Trihexylaluminum 2397-67-3, Triisopropylaluminum (alkylating agent; prodn. of **catalyst** systems contg. transition metal complexes with five- or six-membered ring-based heterocyclic compds., activators, and alkylating agents for polymn. of olefins)

RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



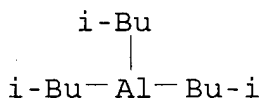
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



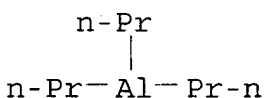
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



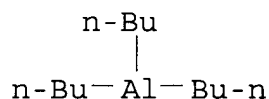
RN 102-67-0 HCA

CN Aluminum, tripropyl- (8CI, 9CI) (CA INDEX NAME)



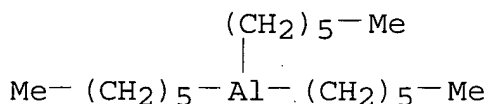
RN 1116-70-7 HCA

CN Aluminum, tributyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



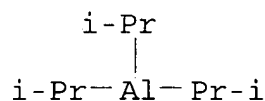
RN 1116-73-0 HCA

CN Aluminum, trihexyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 2397-67-3 HCA

CN Aluminum, tris(1-methylethyl)- (9CI) (CA INDEX NAME)

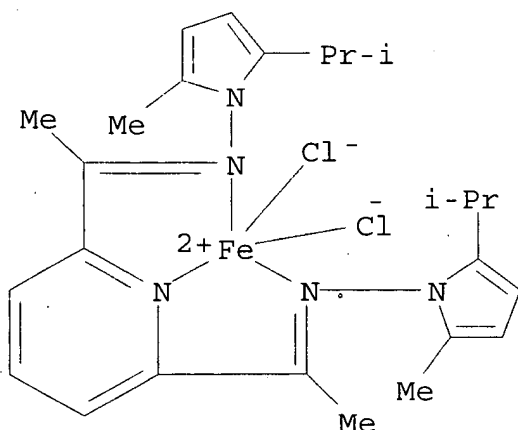


IT 328239-72-1

(prodn. of **catalyst** systems contg. transition metal complexes with five- or six-membered ring-based heterocyclic compds., activators, and alkylating agents for polymn. of olefins)

RN 328239-72-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2-methyl-5-(1-methylethyl)-1H-pyrrol-1-amine-.kappa.NN1]]-, (SP-5-31)- (9CI) (CA INDEX NAME)



IC ICM C08F004-42

ICS C08F004-60; C08F010-00

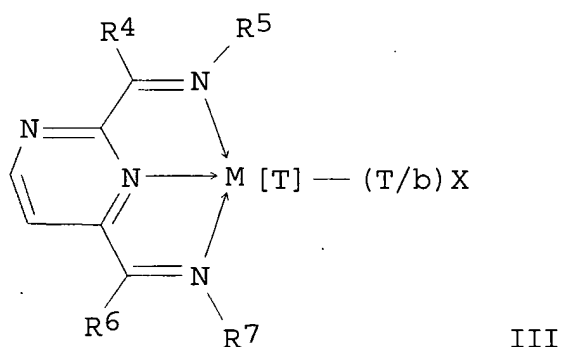
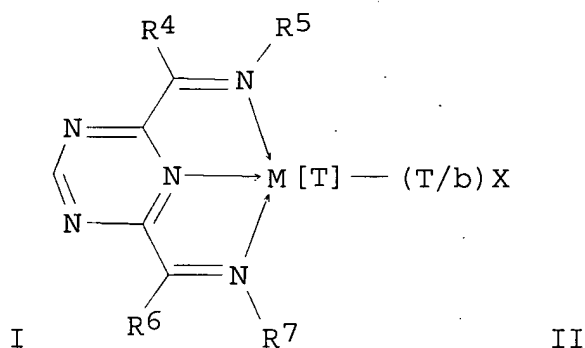
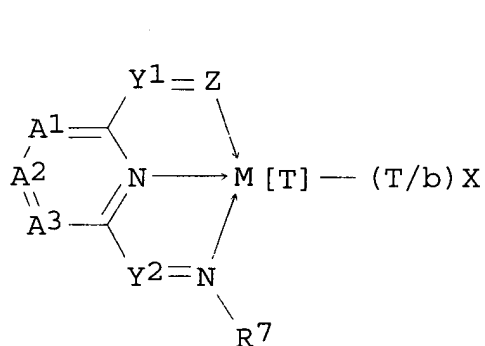
CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

- ST transition metal heterocyclic compd complex **catalyst**
olefin polymn; aluminum organo **catalyst** olefin polymn;
magnesium organo **catalyst** olefin polymn; lithium organo
catalyst olefin polymn
- IT Group IIIA element compounds
(activators; prodn. of **catalyst** systems contg.
transition metal complexes with five- or six-membered ring-based
heterocyclic compds., activators, and alkylating agents for
polymn. of olefins)
- IT Polymerization **catalysts**
(prodn. of **catalyst** systems contg. transition metal
complexes with five- or six-membered ring-based heterocyclic
compds., activators, and alkylating agents for polymn. of
olefins)
- IT Transition metal complexes
(prodn. of **catalyst** systems contg. transition metal
complexes with five- or six-membered ring-based heterocyclic
compds., activators, and alkylating agents for polymn. of
olefins)
- IT Polyolefins
(prodn. of **catalyst** systems contg. transition metal
complexes with five- or six-membered ring-based heterocyclic
compds., activators, and alkylating agents for polymn. of
olefins)
- IT 118612-00-3, N,N-Dimethylanilinium tetrakis(pentafluorophenyl)borate
(activator; prodn. of **catalyst** systems contg.
transition metal complexes with five- or six-membered ring-based
heterocyclic compds., activators, and alkylating agents for
polymn. of olefins)
- IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
102-67-0, Tripropylaluminum 1116-70-7,
Tributylaluminum 1116-73-0, Trihexylaluminum
2397-67-3, Triisopropylaluminum
(alkylating agent; prodn. of **catalyst** systems contg.
transition metal complexes with five- or six-membered ring-based
heterocyclic compds., activators, and alkylating agents for
polymn. of olefins)
- IT 328239-72-1
(prodn. of **catalyst** systems contg. transition metal
complexes with five- or six-membered ring-based heterocyclic
compds., activators, and alkylating agents for polymn. of
olefins)
- IT 9002-88-4P, Polyethylene
(prodn. of **catalyst** systems contg. transition metal
complexes with five- or six-membered ring-based heterocyclic
compds., activators, and alkylating agents for polymn. of
olefins)

catalysts. Gibson, Vernon Charles; Hoarau, Olivier David; Kimberley, Brian Stephen; Maddox, Peter James (Bp Chemicals Ltd., UK). PCT Int. Appl. WO 2001058966 A1 20010816, 33 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-GB249 20010123. PRIORITY: GB 2000-2906 20000210; GB 2000-7766 20000330.

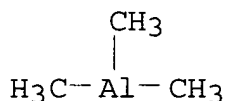
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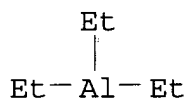
AB A complex suitable for use as a **catalyst** in the polymn. of olefins is disclosed, having the Formula (I) wherein M = transition metal; X = an atom or group covalently or ionically bonded to M; T = the oxidn. state of M; b = the valency of X; A1-A3 = each independently N, P, or CR, with the proviso that at least one but no more than two of them are independently CR; Y1, Y2 = each independently CR' or PR'R; Z = O or NR5, R5, R7, R, R', and R'' = independently selected from H, halogen, hydrocarbyl, substituted

hydrocarbyl, heterohydrocarbyl, substituted heterohydrocarbyl or SiR303 where each R30 = independently selected from H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl and substituted heterohydrocarbyl; but excluding those complexes having the formulas (II) and (III) wherein R4, R6 = Me, R5, R7 = 2,4,6-trimethylphenyl, M = Fe, T = II, X = Cl, and b = 1. Thus, 262 mg 2,4-dibenzoyl-6-methylpyrimidine, 230 mg aniline, one drop concd. H2SO4, and 398 mg Si(OEt)4 were heated at 150.degree. for 5 h to give 2,4-{[N-(2,6-dimethylphenyl)]phenylimidoyl}-6-methylpyrimidine, anhyd. FeCl2 in 10 mL hot n-butanol (80.degree.) was added, and stirred overnight to give 2,4-{[N-(2,6-dimethylphenyl)]phenylimidoyl}-6-methylpyrimidine iron(II) dichloride. Ethylene was polymd. in the presence of 2,4-{[N-(2,6-dimethylphenyl)]phenylimidoyl}-6-methylpyrimidine iron(II) dichloride and MAO showing 2130 g PE/mmole-hr-bar.

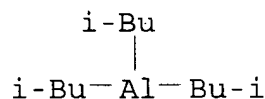
IT 75-24-1, Trimethylaluminum 97-93-8,
Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
1070-00-4, Tri-n-octylaluminum
(activator; prepn. of transition metal complex compds. for olefin
polymn. catalysts)
RN 75-24-1 HCA
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



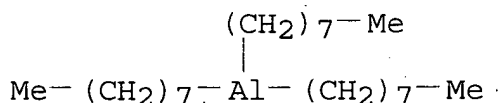
RN 97-93-8 HCA
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA
CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

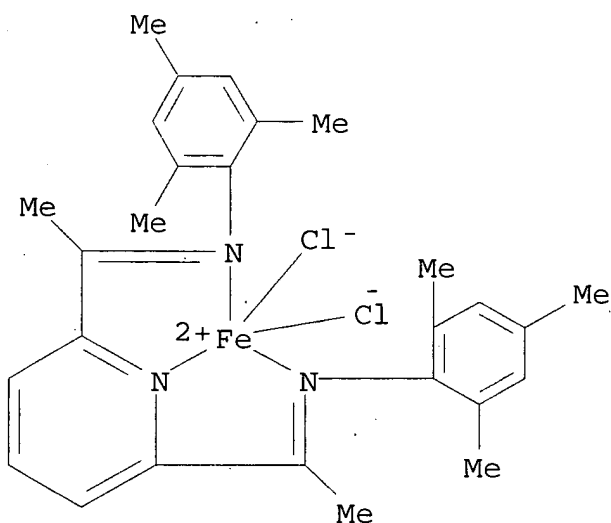


IT 308359-84-4

(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)

RN 308359-84-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethyldynel]bis[2,4,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C08F010-00

ICS C08F004-70; C07F015-02

CC 35-3 (Chemistry of Synthetic High Polymers)

ST transition metal complex olefin polymn **catalyst**

IT Aluminoxanes

(Me; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)IT Polymerization **catalysts**(Ziegler-Natta; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)

IT Aldehydes, uses

Alkynes

Aluminoxanes

Amides, uses

Esters, uses

Ethers, uses

Ketones, uses

Lewis bases

Nitriles, uses

Phosphites

Sulfones

Sulfoxides

Thioethers

(activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)IT Polymerization **catalysts**

(gas-phase; prepn. of transition metal complex compds. for olefin

- polymn. **catalysts**)
- IT Polymerization **catalysts**
(metallocene; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Alkenes, uses
(non-.alpha.-olefin, activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Polymerization **catalysts**
(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Amines, uses
(primary, activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Amines, uses
(secondary, activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Polymerization **catalysts**
(slurry; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Polymerization **catalysts**
(soln.; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Polymerization **catalysts**
(supported; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT Amines, uses
(tertiary, activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum chloride, uses 97-93-8, Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses 124-38-9, Carbon dioxide, uses 289-56-5, Boroxine 563-43-9, Ethylaluminum dichloride, uses 630-08-0, Carbon monoxide, uses 917-65-7, Methylaluminum dichloride 1070-00-4, Tri-n-octylaluminum 1184-58-3, Dimethylaluminum chloride 7803-51-2, Phosphine 12075-68-2 12542-85-7 13597-72-3, Phosphoramidate
(activator; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 11118-57-3, Chromium oxide
(**catalyst**, heat-activated; prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 308359-84-4 354581-03-6 354581-04-7 354581-05-8
354581-06-9 354581-07-0 354581-08-1 354581-09-2 354581-10-5
(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 354581-02-5P
(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 9002-88-4P, Polyethylene
(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)
- IT 354581-01-4P

(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)

IT 62-53-3, Aniline, reactions 7758-94-3, Iron dichloride
169259-16-9

(prepn. of transition metal complex compds. for olefin polymn. **catalysts**)

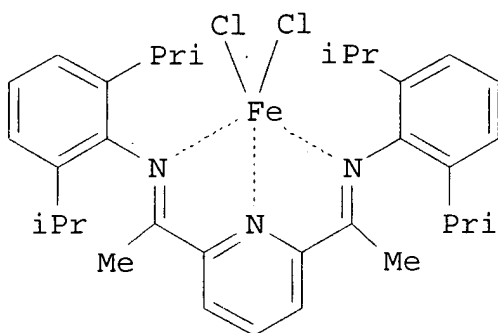
L56 ANSWER 5 OF 30 HCA COPYRIGHT 2003 ACS on STN

135:93023 Preparation of HDPE with high melt tension and excellent moldability by using transition metal **catalysts**.

Kamisawa, Mitsugu; Onishi, Mutsuo; Nakajima, Harumi (Idemitsu Petrochemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001192405 A2 20010717, 10 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 2000-3359 20000112.

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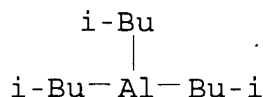
AB The HDPE, showing MT .gtoreq.2.25 .times. MFR-0.679 [MT = melt tension (g) at 190.degree.; MFR = melt flow rate (g/10 min) at 189.degree. under 2.16-kg load], are prepd. by polymg. ethylene in the presence of Group 4-6 transition metal compds., Group 8-10 transition metal compds., montmorillonite, and optionally organometallic compds. Thus, ethylene was polymd. in the presence of I, dimethylsilylene(tetramethylcyclopentadienyl)(tert-butylamino)titanium dichloride, triisobutylaluminum, and chem. treated montmorillonite to give a polymer with MFR 0.51 g/10 min, MT 17.3 g, and d. 0.958 g/cm3.

IT 100-99-2, Triisobutylaluminum, uses 207129-95-1
308359-85-5

(prepn. of HDPE with high melt tension and good moldability by using transition metal polymn. **catalysts**)

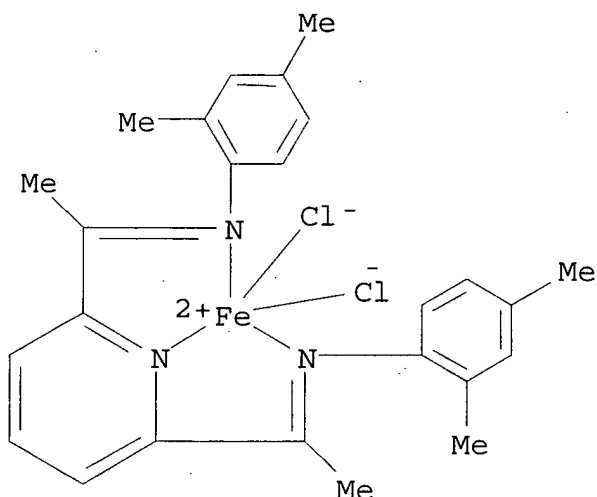
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



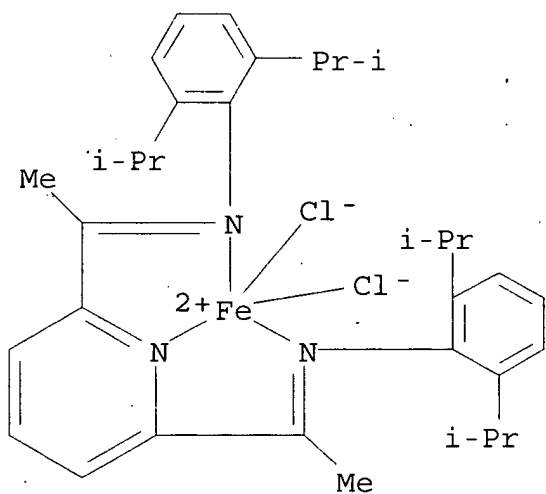
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 308359-85-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C08F004-606

ICS C08F110-02

CC 35-3 (Chemistry of Synthetic High Polymers)

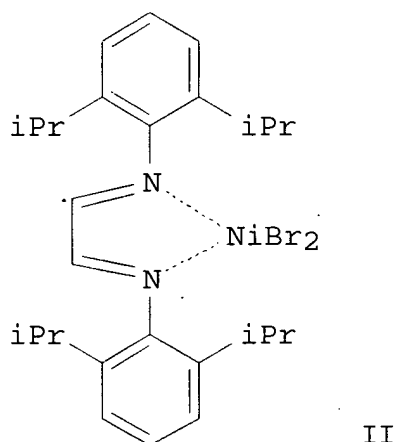
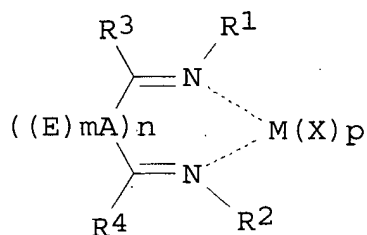
Section cross-reference(s): 67

ST transition metal polymn **catalyst** HDPE moldability;
polyethylene melt tension iron titanium montmorilloniteIT Polymerization **catalysts**

- (prepn. of HDPE with high melt tension and good moldability by using transition metal polymn. **catalysts**)
- IT 1318-93-0, Montmorillonite, uses
(chem. treated; prepn. of HDPE with high melt tension and good moldability by using transition metal polymn. **catalysts**)
- IT 9002-88-4P, Polyethylene
(high-d.; prepn. of HDPE with high melt tension and good moldability by using transition metal polymn. **catalysts**)
- IT 100-99-2, Triisobutylaluminum, uses 135072-61-6
207129-95-1 308359-85-5
(prepn. of HDPE with high melt tension and good moldability by using transition metal polymn. **catalysts**)

L56 ANSWER 6 OF 30 HCA COPYRIGHT 2003 ACS on STN
135:77274 Transition metal-containing **catalysts** for
polymerization of olefins with excellent polymerization activity and
polymerization of olefins using the same. Sugimura, Kenji (Mitsui
Chemicals Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2001181328 A2
20010703, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1999-370503 19991227.

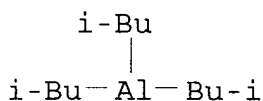
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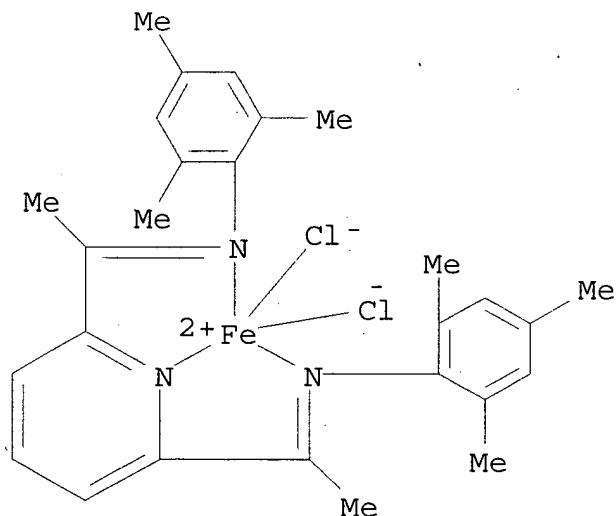
AB The **catalysts** comprise (A) transition metals shown as I [M = Group 3-10 transition metal; R1-R4 = H, halo, hydrocarbyl (for R1 and R2, those having Ph framework with H in o-position to N are excluded), halogenated hydrocarbyl (for R1 and R2, those having Ph framework with H in o-position to N are excluded), org. silyl, alkoxy, aryloxy, ester, acyl, amide, amino, sulfonamide, sulfonyl, nitrile, nitro, of the .gtoreq.2 may be linked together and form ring; m = 0-2, n = 0-3; A = Group 13-16 atom; E = substituent having

.gtoreq.1 of C, H, O, halo, N, S, P, B, Si; when E are plural, .gtoreq.2 of group shown as E may be linked together and form ring; p = no. satisfying valency of M; X = H, halo, C1-20 hydrocarbyl, C1-20 halogenated hydrocarbyl, O-contg. group, S-contg. group, Si-contg. group; when p .gtoreq. 2, a plurality of groups shown as X may be same or different and .gtoreq.2 X may be linked together and form ring], (B) ionic compds. involving anionic clusters contg. atoms of Group 16 and 17 as essential components, and (C) organometallic compds. Olefin (co)polymers prepd. by using the **catalysts** thereof have narrow distributions of mol. wts. and compns. Thus, 5 .mu.mol of a Ni compd. II was stirred with 5 .mu.mol Mg[(ClO)4]2 in PhMe to give a pretreated **catalyst**. Ethylene (4 kg/cm2-G) was polymd. at 25.degree. for 1 h in PhMe in the presence of 7.5 mmol (i-Bu)3Al and all of the pretreated **catalyst**, pptd. in MeOH-HCl soln., and dried to yield 3.18 g polyethylene.

IT 100-99-2, Triisobutylaluminum, uses
(cocatalysts; transition metal-contg. **catalysts** for
olefin polymn. with excellent polymn. activity)
RN 100-99-2 HCA
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



IT 207129-94-0
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
RN 207129-94-0 HCA
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



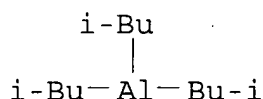
- IC ICM C08F004-605
ICS C08F010-00
- CC 35-3 (Chemistry of Synthetic High Polymers)
- ST transition metal olefin polymn **catalyst**; anionic cluster
olefin polymn **catalyst**; organometallic compd olefin polymn
catalyst; polyethylene prepn transition metal
catalyst; polyolefin prepn transition metal **catalyst**
- IT Clusters
(anionic, contg. Gropu 16-17 atoms, cocatalysts; transition
metal-contg. **catalysts** for olefin polymn. with
excellent polymn. activity)
- IT Organometallic compounds
(cocatalysts; transition metal-contg. **catalysts** for
olefin polymn. with excellent polymn. activity)
- IT Polymerization **catalysts**
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
- IT Transition metals, uses
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
- IT Polyolefins
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
- IT 100-99-2, Triisobutylaluminum, uses 3058-33-1,
Triphenylcarbenium perchlorate 7783-92-8, Silver chlorate
10034-81-8, Magnesium perchlorate 63784-93-0, Magnesium periodate
(Mg₂(IO₄)₂)
(cocatalysts; transition metal-contg. **catalysts** for
olefin polymn. with excellent polymn. activity)
- IT 75171-01-6 207129-94-0
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
- IT 9002-88-4P, Polyethylene 9010-79-1P, Ethylene-propylene copolymer
(transition metal-contg. **catalysts** for olefin polymn.
with excellent polymn. activity)
- L56 ANSWER 7 OF 30 HCA COPYRIGHT 2003 ACS on STN
- 134:237974 Transition metal **catalysts** and processes for
producing .alpha.-olefin and vinyl compound polymer. Sato,
Haruhito; Kuramoto, Masahiko; Watanabe, Masami (Idemitsu
Petrochemical Co., Ltd., Japan). PCT Int. Appl. WO 2001019513 A1
20010322, 64 pp. DESIGNATED STATES: W: AU, BR, CA, CN, ID, IN, JP,
KR, SG, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT,
LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO
2000-JP6317 20000914. PRIORITY: JP 1999-262565 19990916; JP
1999-322928 19991112; JP 2000-180875 20000616.
- AB A **catalyst** for .alpha.-olefin prodn. comprises (a) a
complex of a transition metal of Groups 8-10, (b) a clay, clay
mineral, or ion-exchanging lamellar compd., and (c) an amine compd.
or an adduct thereof with a Bronsted acid. A **catalyst** for
olefin polymn. comprises (a) a chelate complex of a transition metal

of Groups 4-6 or a complex of a transition metal of Groups 8-10, (b) a clay, clay mineral, or ion-exchanging lamellar compd., and (c) a quaternary ammonium salt. A **catalyst** for vinyl compd. polymn. comprises a promoter component obtained through contacting from (a) a clay, clay mineral, or ion-exchanging lamellar compd., (b) an amine compd.; an adduct thereof with a Bronsted acid, or a quaternary ammonium salt, and (c) an org. silane compd.; and (d) a complex of a transition metal of Groups 4-6 or Groups 8-10. Prepg. a composite of Na montmorillonite and N,N-dibenzylaniline, stirring with (iso-Bu)₃Al-PhMe soln, and adding the resulting slurry (2.5 mL) to a 20 mL PhMe slurry contg. 0.088 g [2,6-[(2,4-C₆H₃Me₂)N:C(Me)]₂C₅H₃N]FeCl₂ gave a **catalyst**, which together with tetra(isobutyl) dialuminoxane in cyclohexane was used to polymerize ethylene at 75.degree. and 0.8 MPa, resulting in **catalyst** activity 3510 g/g-Fe.

IT 100-99-2, Tris(Isobutyl) Aluminum, uses 308359-85-5
(transition metal **catalysts** and processes for producing
.alpha.-olefin and vinyl compd. polymer)

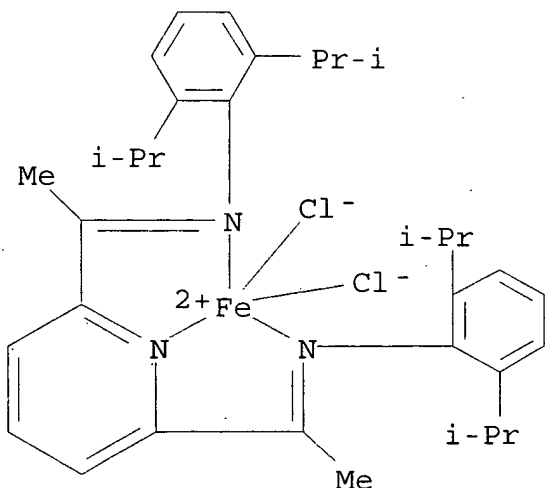
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 308359-85-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

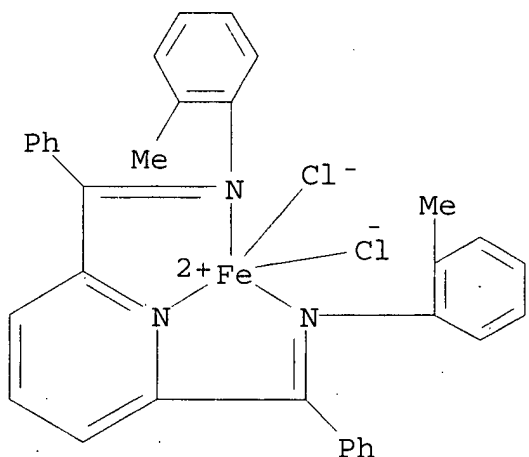


IT 328952-95-0P

(transition metal **catalysts** and processes for producing
.alpha.-olefin and vinyl compd. polymer)

RN 328952-95-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(phenylmethyldyn
e)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM B01J031-22
ICS C07C002-08; C08F004-70; C08F004-62; C08F010-00; C08F012-00
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
ST transition metal polymn **catalyst** olefin vinyl compd;
ethylene polymn **catalyst** transition metal complex
IT Polymerization **catalysts**
(metallocene; transition metal **catalysts** and processes
for producing .alpha.-olefin and vinyl compd. polymer)
IT Polymerization **catalysts**
(oligomerization; transition metal **catalysts** and
processes for producing .alpha.-olefin and vinyl compd. polymer)
IT Vinyl compounds; preparation
(polymers; transition metal **catalysts** and processes for
producing .alpha.-olefin and vinyl compd. polymer)
IT Polymerization **catalysts**
(transition metal **catalysts** and processes for producing
.alpha.-olefin and vinyl compd. polymer)
IT Bentonite, uses
Clay minerals
Clays, uses
Quaternary ammonium compounds, uses
(transition metal **catalysts** and processes for producing
.alpha.-olefin and vinyl compd. polymer)
IT Polyolefins
(transition metal **catalysts** and processes for producing
.alpha.-olefin and vinyl compd. polymer)
IT Alkenes, preparation
(.alpha.-; transition metal **catalysts** and processes for
producing .alpha.-olefin and vinyl compd. polymer)
IT 80-10-4, Diphenyldichlorosilane 91-73-6, N,N-Dibenzylaniline
100-99-2, Tris(Isobutyl) Aluminum, uses 108-48-5,
2,6-Dimethylpyridine 121-69-7, N,N-Dimethylaniline, uses

122-18-9, Benzylcetyldimethylammonium chloride 620-40-6,
 Tribenzylamine 998-00-5 1318-93-0D, Montmorillonite
 ((Al_{1.33}-1.67Mg_{0.33}-0.67)(Ca₀-1Na₀-1)0.33Si₄(OH)₂O₁₀.xH₂O),
 sodium-exchanged 3204-68-0, Benzyl dimethylphenyl ammonium chloride
 179612-34-1 187247-40-1, Kunipia F 308359-85-5

(transition metal **catalysts** and processes for producing
 .alpha.-olefin and vinyl compd. polymer)

IT 161442-55-3P 328952-95-0P

(transition metal **catalysts** and processes for producing
 .alpha.-olefin and vinyl compd. polymer)

IT 9002-88-4P, Polyethylene 9003-07-0P, Polypropylene

(transition metal **catalysts** and processes for producing
 .alpha.-olefin and vinyl compd. polymer)

L56 ANSWER 8 OF 30 HCA COPYRIGHT 2003 ACS on STN

134:223676 High density polyethylene packaging. McNally, Cameron John
 (E.I. Du Pont De Nemours and Company, USA). PCT Int. Appl. WO
 2001015899 A1 20010308, 26 pp. DESIGNATED STATES: W: AL, AM, AT,
 AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN,
 YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF,
 CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC,
 ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
 APPLICATION: WO 2000-US24182 20000901. PRIORITY: US 1999-PV151916
 19990901.

AB High d. polyethylene prepd. by using a cobalt or iron complex of a
 selected tridentate ligand as a polymn. **catalyst** (for
 e.g., 2,6-diacetylpyridine-bis(2,4,6-trimethyl-phenylimine)) is made
 into packaging which has advantageous properties, esp. lower
 permeation to ambient materials such as oxygen and/or water. The
 packaging, such as bottles, bags and rigid storage tanks, are formed
 by conventional methods.

IT 100-99-2, Triisobutyl aluminum, uses 308359-84-4

(prepn. of high d. polyethylene having low water vapor and oxygen
 transmission for packaging)

RN 100-99-2 HCA

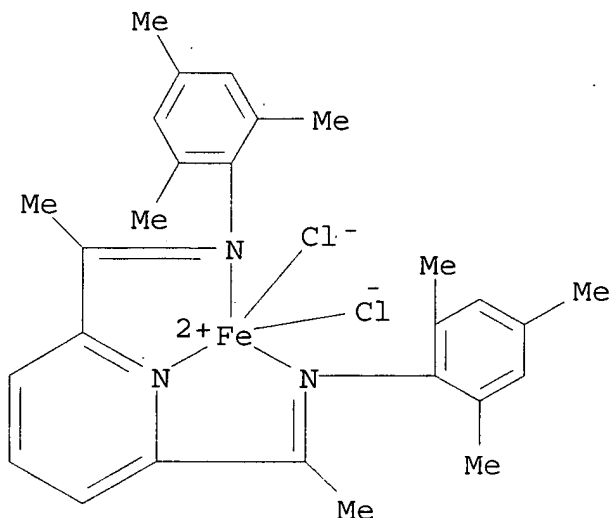
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)

i-Bu

i-Bu—Al—Bu-i

RN 308359-84-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4
 ,6-trimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



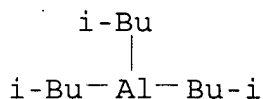
- IC ICM B32B027-32
ICS C08F010-00; C08F004-70
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 35
- IT Packaging materials
Polymerization **catalysts**
(prepn. of high d. polyethylene having low water vapor and oxygen transmission for packaging)
- IT 100-99-2, Triisobutyl aluminum, uses 308359-84-4
(prepn. of high d. polyethylene having low water vapor and oxygen transmission for packaging)

L56 ANSWER 9 OF 30 HCA COPYRIGHT 2003 ACS on STN
134:58207. Manufacture of **catalyst** for .alpha.-olefin production. Sato, Haruhito; Kuramoto, Masahiko; Watanabe, Masami; Tanaka, Shinji (Idemitsu Petrochemical Co., Ltd., Japan). PCT Int. Appl. WO 2000076659 A1 **20001221**, 45 pp. DESIGNATED STATES: W: AU, BR, CA, CN, ID, IN, JP, KR, SG, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2000-JP3724 20000608. PRIORITY: JP 1999-164999 19990611.

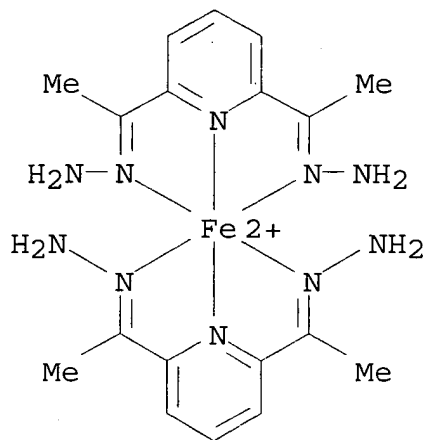
AB A **catalyst** which is highly active in the oligomerization of ethylene and with which the generation of byproducts such as heavy ingredients and wax ingredients is slight is manufd. and a process for producing an .alpha.-olefin with the **catalyst** is presented. The **catalyst** for .alpha.-olefin prodn. is obtained by contacting (a) a clay, clay material, or ion-exchanging lamellar compd. with (b) a complex of a transition metal in Groups 8 to 10 of the Periodic Table for .gtoreq.10 min. The process for producing an .alpha.-olefin comprises using the **catalyst** to oligomerize ethylene.

- IT 100-99-2, Triisobutyl aluminum, processes 16884-71-2
(in manuf. of **catalyst** for .alpha.-olefin prodn.)

RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 16884-71-2 HCA
 CN Iron(2+), bis[1,1'-(2,6-pyridinediyl-.kappa.N)bis[ethanone]di(hydrazone-.kappa.N1)]-, dichloride (9CI) (CA INDEX NAME)

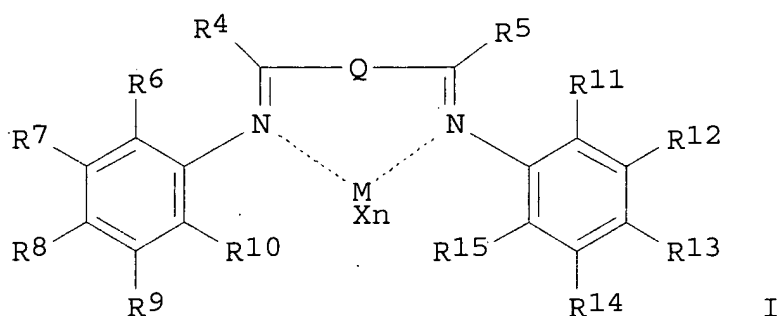


● 2 Cl⁻

IC ICM B01J031-26
 ICS C07C002-32; C07C011-02; C08F004-80
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 ST olefin manuf oligomerization **catalyst**; clay aluminum iron
 compd oligomerization **catalyst**
 IT Clays, uses
 (in manuf. of **catalyst** for .alpha.-olefin prodn.)
 IT Polymerization **catalysts**
 (oligomerization; manuf. of **catalyst** for .alpha.-olefin
 prodn.)
 IT Alkenes, preparation
 (.alpha.-; manuf. of **catalyst** for .alpha.-olefin
 prodn.)
 IT 100-99-2, Triisobutyl aluminum, processes 772-65-6,
 Phenethylmethyldichlorosilane 16884-71-2
 (in manuf. of **catalyst** for .alpha.-olefin prodn.)
 IT 74-85-1, Ethylene, reactions
 (manuf. of **catalyst** for .alpha.-olefin prodn.)

L56 ANSWER 10 OF 30 HCA COPYRIGHT 2003 ACS on STN
 134:42578 Transition metal **catalyst** component for
 polymerization, aromatic vinyl compound-olefin copolymer and process
 for its production by means of the **catalyst** component.
 Otsu, Toshiaki; Arai, Toru; Nakajima, Masataka (Denki Kagaku Kogyo
 Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1059313 A1
20001213, 16 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK,
 ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO.
 (English). CODEN: EPXXDW. APPLICATION: EP 2000-112160 20000606.
 PRIORITY: JP 1999-161004 19990608.

GI

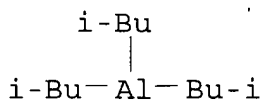


AB Arom. vinyl compd.-olefin copolymers are manufd. by using which
 transition metal complexes I (Q = single bond, substituted C4-20
 arylene, substituted C1-20 (un)satd. aliph. chain optionally contg.
 1-3 of N, O, S, or P atoms; R4, R5 = H, C1-20 alkyl, C6-20 aryl, or
 C7-20 alkaryl; R6, R7, R8, R9, R10 = H, C1-20 alkyl, C6-20 aryl,
 C7-20 alkaryl, halo, OSiA3, PA2, or NO2; A = C1-10 hydrocarbyl;
 adjacent R6-10 = 5-8-membered arom. or aliph. ring; R6 + R10
 .gtoreq. 2 C atoms or R6 and(or) R10 forms a ring; R11, R12, R13,
 R14, R15 = H, C1-20 alkyl, C6-20 aryl, C7-20 alkaryl, halo, OSiA3,
 PA2, or NO2; A = C1-10 hydrocarbyl; adjacent R11-15 = 5-8-membered
 arom. or aliph. ring; R11 + R15 .gtoreq. 2 C atoms or R11 and(or) R15
 forms a ring; M = Group 5-12 metal atom; n = 0-3; X = anion). A
 typical I was manufd. by reaction of 6.1 mmol 2,6-diacetylpyridine
 with excess 2,6-dimethylaniline, and complexation of the resulting
 ligand with FeCl2.

IT **100-99-2**, Triisobutylaluminum, uses
 (cocatalyst; transition metal **catalysts** for manuf. of
 arom. vinyl compd.-olefin copolymers)

RN **100-99-2** HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)

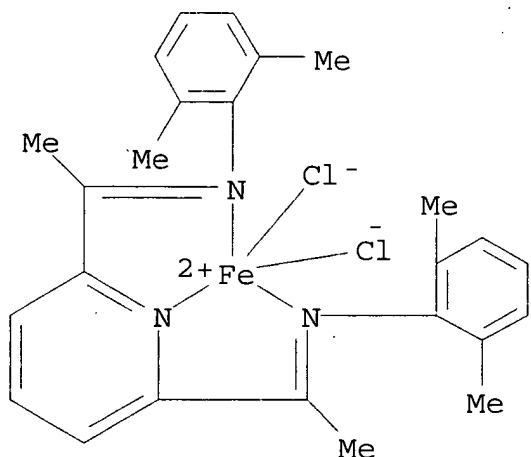


IT 207129-93-9P 210537-35-2P 210537-37-4P

(transition metal **catalysts** for manuf. of arom. vinyl
compd.-olefin copolymers)

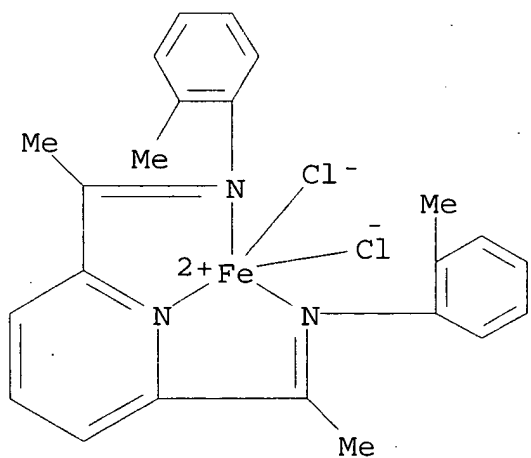
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



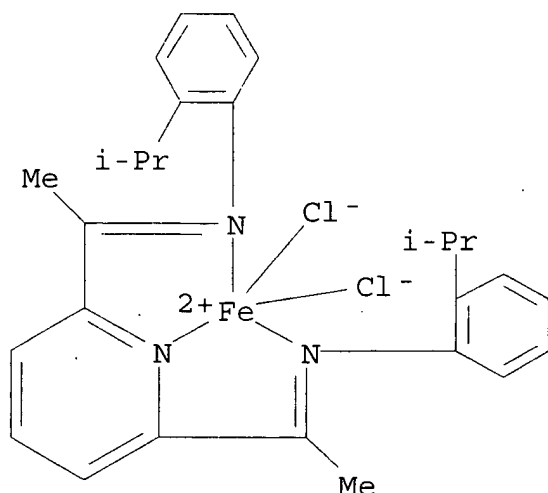
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethynidynenitril o-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 210537-37-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethynidynenitril o-.kappa.N)]bis[2-(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



- IC ICM C08F210-02
ICS C08F212-08; C08F004-70
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST bisimino transition metal **catalyst** arom vinyl compd olefin
polymn; bisdimethylphenyliminoethyl pyridine iron complex
catalyst polymn
- IT Aluminoxanes
(alkyl Me, MMAO-3A, cocatalyst; transition metal
catalysts for manuf. of arom. vinyl compd.-olefin
copolymers)
- IT Polymerization **catalysts**
(transition metal **catalysts** for manuf. of arom. vinyl
compd.-olefin copolymers)
- IT 204203-16-7P 210537-32-9P 210537-34-1P
(**catalyst** precursor; transition metal **catalysts**
for manuf. of arom. vinyl compd.-olefin copolymers)
- IT 95-53-4, o-Toluidine, reactions 108-48-5, 2,6-Dimethylpyridine
643-28-7, o-Isopropylaniline 1129-30-2, 2,6-Diacetylpyridine
(**catalyst** precursor; transition metal **catalysts**
for manuf. of arom. vinyl compd.-olefin copolymers)
- IT 100-99-2, Triisobutylaluminum, uses
(cocatalyst; transition metal **catalysts** for manuf. of
arom. vinyl compd.-olefin copolymers)
- IT 207129-93-9P 210537-35-2P 210537-37-4P
(transition metal **catalysts** for manuf. of arom. vinyl
compd.-olefin copolymers)
- IT 25068-12-6P, Ethylene-styrene copolymer
(transition metal **catalysts** for manuf. of arom. vinyl
compd.-olefin copolymers)

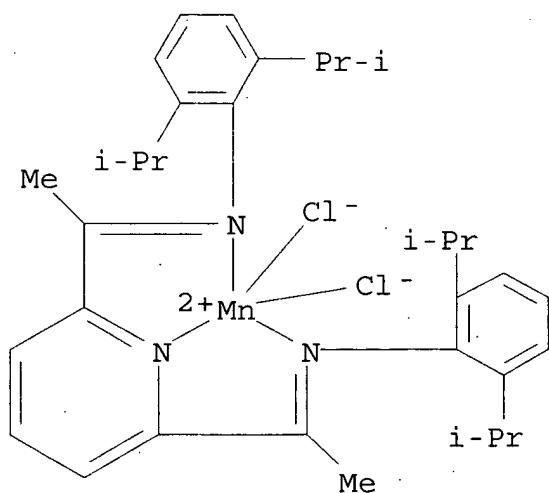
Devore, David D.; Feng, Shaoguang S.; Frazier, Kevin A.; Patton, Jasson T. (The Dow Chemical Company, USA). PCT Int. Appl. WO 2000069923 A1 **20001123**, 25 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US7164 20000317. PRIORITY: US 1999-PV134336 19990514.

AB Metal complexes comprising a polydentate chelating group, **catalysts** and polymn. processes using the same for the polymn. of olefins, esp. propylene, are disclosed. Isotactic polypropylene was prepd. using [2,6-Bis[1-[2,6(diisopropylphenyl)imino]ethyl]pyridine]CrCl₂ and Me aluminoxane **catalysts**.

IT **221391-06-6P 308367-52-4P 308367-57-9P 308367-58-0P 308367-61-5P**
(transition metal complexes and olefin polymn. process)

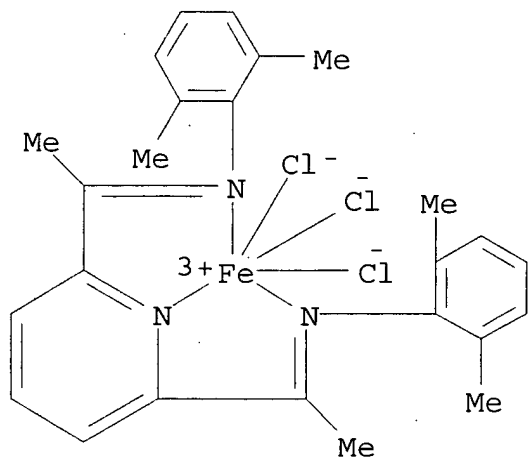
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



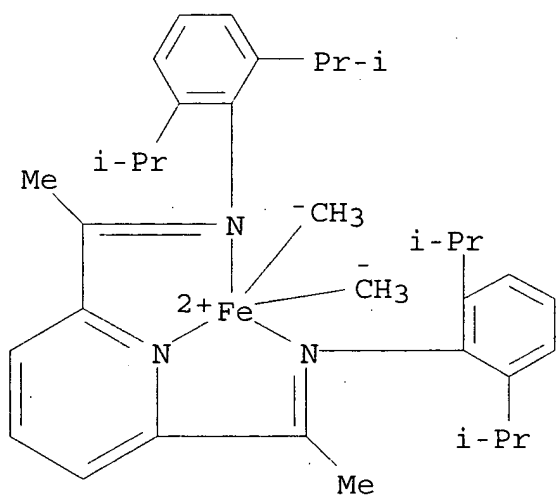
RN 308367-52-4 HCA

CN Iron, trichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI)
(CA INDEX NAME)



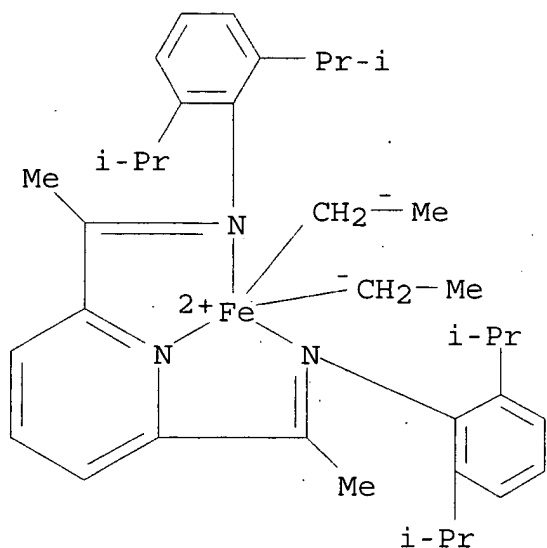
RN 308367-57-9 HCA

CN Iron, dimethyl[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



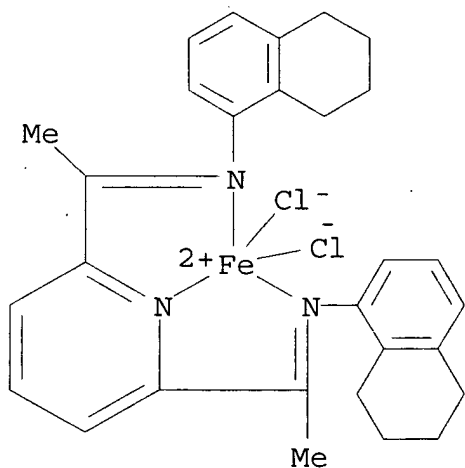
RN 308367-58-0 HCA

CN Iron, diethyl[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 308367-61-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[5,6,7,8-tetrahydro-1-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME)

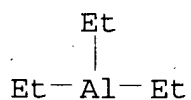


IT 97-93-8, reactions

(transition metal complexes and olefin polymn. process)

RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



IC ICM C08F010-00

ICS C08F004-60; C07F005-00; C07F007-00; C07F009-00; C07F011-00;
C07F013-00; C07F015-00

CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67

ST isotactic polypropylene manuf transition metal complex
catalyst; diisopropylphenyliminoethylpyridine chromium
dichloride **catalyst** olefin polymn

IT Polymerization **catalysts**
(transition metal complexes and olefin polymn. process)

IT 221391-06-6P 267006-70-2P 308367-51-3P
308367-52-4P 308367-53-5P 308367-54-6P 308367-56-8P
308367-57-9P 308367-58-0P 308367-59-1P
308367-61-5P 308367-62-6P 308367-63-7P 308367-64-8P
308367-65-9P 308367-66-0P 308367-69-3P 308367-73-9P
(transition metal complexes and olefin polymn. process)

IT 75-16-1, Methyl magnesium bromide 87-62-7, 2,6-Dimethylaniline
97-93-8, reactions 1129-30-2, 2,6-Diacetylpyridine
1822-00-0 2217-41-6, 5,6,7,8-Tetrahydro-1-naphthylamine
7705-08-0, Iron trichloride, reactions 7773-01-5, Manganese
dichloride 10049-05-5, Chromium dichloride 10361-84-9, Scandium
chloride (ScCl₃) 18039-90-2, Titanium trichloride-THF complex
(1:3) 19559-06-9 24544-04-5, 2,6-Diisopropylaniline
28020-73-7, 2,6-Bis-(2-benzimidazolyl)pyridine 118949-61-4
(transition metal complexes and olefin polymn. process)

L56 ANSWER 12 OF 30 HCA COPYRIGHT 2003 ACS on STN

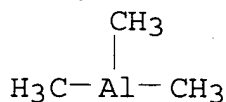
133:363076 Ethylene polymerization using iron(II) bis(imino) pyridyl and
nickel (diimine) **catalysts**: effect of cocatalysts and
reaction parameters. Kumar, K. R.; Sivaram, S. (Division of Polymer
Chemistry, National Chemical Laboratory, Pune, 411 008, India).
Macromolecular Chemistry and Physics, 201(13), 1513-1520 (English)
2000. CODEN: MCHPES. ISSN: 1022-1352. Publisher:
Wiley-VCH Verlag GmbH.

AB Ethylene polymn. using iron(II) bis(imino)pyridyl and nickel
(diimine) **catalysts** was studied. The effect of the exptl.
parameters such as the nature of alkylaluminums, Al/M ratio and the
temp. on the kinetics of polymn., **catalyst** activity, mol.
wts. and mol. wt. distributions of the polymers were explored.
Whereas MAO and TMA gave broad mol. wt. distributions, TIBAL and
TIBDAO were found to produce narrow mol. wt. distributions. DEAC is
a non-activator for the Fe **catalyst**, but it is an
effective cocatalyst for the Ni **catalyst**.

IT 75-24-1, Trimethylaluminum 100-99-2,
Triisobutylaluminum, uses
(cocatalyst; ethylene polymn. using iron(II) bis(imino)pyridyl
and nickel (diimine) **catalysts**)

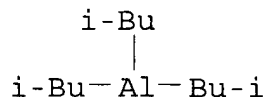
RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)

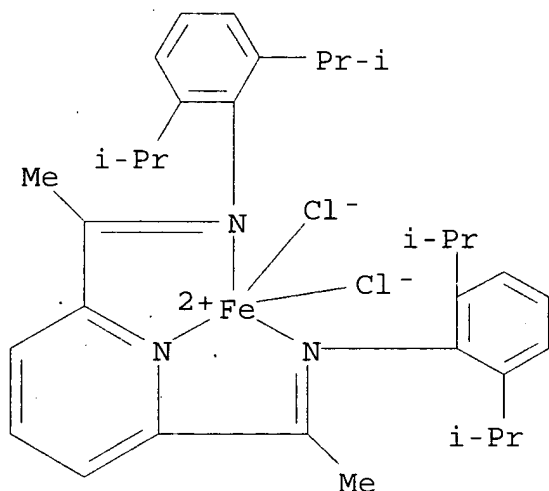


IT 204203-10-1

(ethylene polymn. using iron(II) bis(imino)pyridyl and nickel (diimine) **catalysts**)

RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



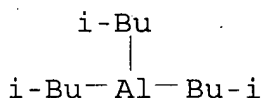
CC 35-6 (Chemistry of Synthetic High Polymers)

ST ethylene polymn ironbisiminopyridyl nickeldiimine **catalyst**
; MAO ethylene polymn cocatalyst; tetraisobutylaluminum ethylene polymn cocatalyst; trimethylaluminum ethylene polymn cocatalyst; diethylaluminumchloride ethylene polymn cocatalyst; triisobutylaluminum ethylene polymn cocatalyst

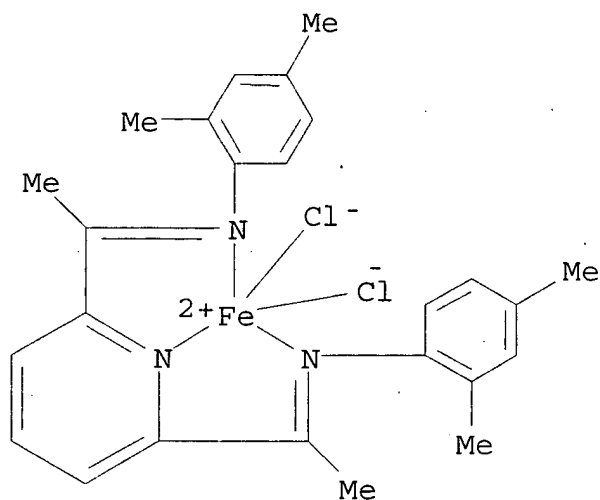
IT Aluminoxanes

(Me, cocatalyst; ethylene polymn. using iron(II) bis(imino)pyridyl and nickel (diimine) **catalysts**)IT Polymerization **catalysts**(ethylene polymn. using iron(II) bis(imino)pyridyl and nickel (diimine) **catalysts**)

- IT Polymerization **catalysts**
 (metallocene; ethylene polymn. using iron(II) bis(imino)pyridyl
 and nickel (diimine) **catalysts**)
- IT 75-24-1, Trimethylaluminum 96-10-6,
 Diethylaluminumchloride, uses 100-99-2,
 Triisobutylaluminum, uses 998-00-5, Tetraisobutyldialuminoxane
 (cocatalyst; ethylene polymn. using iron(II) bis(imino)pyridyl
 and nickel (diimine) **catalysts**)
- IT 163893-70-7 204203-10-1
 (ethylene polymn. using iron(II) bis(imino)pyridyl and nickel
 (diimine) **catalysts**)
- IT 9002-88-4P, Polyethylene
 (ethylene polymn. using iron(II) bis(imino)pyridyl and nickel
 (diimine) **catalysts**)
- L56 ANSWER 13 OF 30 HCA COPYRIGHT 2003 ACS on STN
 133:252867 Olefin polymerization and montmorillonite-supported
 transition metal **catalysts** therefor. Sato, Haruhito;
 Kuramoto, Masahiko (Idemitsu Petrochemical Co., Ltd., Japan). Jpn.
 Kokai Tokyo Koho JP 2000264913 A2 20000926, 20 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-72174 19990317.
- AB The **catalysts** comprise Group IVB-VIB or Group VIII
 transition metal complexes and (organosilane-modified)
 montmorillonites whose IR absorption spectra satisfy I2/I1 (I1, I2 =
 absorption intensity of the max. peak in 905-925 and that in 835-855
 cm-1, resp.) 0.05-0.45. The productivity and activity of the
catalysts are improved. Thus, a Na-exchanged
 montmorillonite (BEN-GEL, I2/I1 0.26) was modified with MgCl2,
 slurried, treated with an aq. HCl soln. under relaxing, filtered,
 slurried again with (i-Bu)3Al (I), and mixed with
 dicyclopentadienylzirconium dichloride to give a **catalyst**.
 Then, ethylene was polymd. at 70.degree. in the presence of the
catalyst and I to give a polyethylene at **catalyst**
 activity 1770 g/g-**catalyst**/h and 195 kg/g-Zr/h.
- IT 100-99-2, Triisobutylaluminum, uses 207129-95-1
 (montmorillonite-supported transition metal **catalysts**
 with high activity and producibility for olefin polymn.)
- RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



- RN 207129-95-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4-
 dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



- IC ICM C08F004-64
ICS C08F004-02; C08F004-70; C08F010-00
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29, 57, 67
- ST exchanged montmorillonite olefin polymn **catalyst** activity;
bentonite butylaluminum ethylene propylene polymn **catalyst**
; cyclopentadienylzirconium metallocene polymn **catalyst**
clay supported; iron complex olefin polymn **catalyst**
bentonite supported
- IT Bentonite, uses
(BEN-GEL; montmorillonite-supported transition metal
catalysts with high activity and producibility for olefin
polymn.)
- IT Metallocenes
(Group IVB-VIB compds.; montmorillonite-supported transition
metal **catalysts** with high activity and producibility
for olefin polymn.)
- IT Chelates
(Group IVB-VIB or Group VIII compds.; montmorillonite-supported
transition metal **catalysts** with high activity and
producibility for olefin polymn.)
- IT Polymerization **catalysts**
(metallocene; montmorillonite-supported transition metal
catalysts with high activity and producibility for olefin
polymn.)
- IT Organometallic compounds
(montmorillonite-supported transition metal **catalysts**
with high activity and producibility for olefin polymn.)
- IT Polyolefins
(montmorillonite-supported transition metal **catalysts**
with high activity and producibility for olefin polymn.)
- IT Silanes
(organosilanes; montmorillonite-supported transition metal

- catalysts** with high activity and producibility for olefin polymn.)
- IT Polymerization **catalysts**
(supported; montmorillonite-supported transition metal **catalysts** with high activity and producibility for olefin polymn.)
- IT 100-99-2, Triisobutylaluminum, uses 772-65-6, Phenethylmethyldichlorosilane 1291-32-3, Dicyclopentadienylzirconium dichloride 7429-90-5D, Aluminum, org. compds., uses 7439-93-2D, Lithium, org. compds., uses 7439-95-4D, Magnesium, org. compds., uses 7440-66-6D, Zinc, org. compds., uses 7758-02-3, Potassium bromide, uses 158515-16-3, Dimethylsilylenebis(2-methyl-4-phenylindenyl)zirconium dichloride 207129-95-1
(montmorillonite-supported transition metal **catalysts** with high activity and producibility for olefin polymn.)
- IT 9002-88-4P, Polyethylene 9003-07-0P, Polypropylene
(montmorillonite-supported transition metal **catalysts** with high activity and producibility for olefin polymn.)
- L56 ANSWER 14 OF 30 HCA COPYRIGHT 2003 ACS on STN
133:252866 Pyridine-imine polymerization **catalyst** for olefins.
Maddox, Peter James; Partington, Stephen Roy (BP Chemicals Limited, UK). PCT Int. Appl. WO 2000055216 A1 20000921, 40 pp.
DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
APPLICATION: WO 2000-GB835 20000308. PRIORITY: GB 1999-6296 19990318.
- AB A **catalyst** for the polymn. comprises (1) a **catalyst** comprising a compd. of Formula (I) wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X = atom or group covalently or ionically bonded to the transition metal M; T is the oxidn. state of the transition metal M, and b is the valency of the atom or group X; R1-5 and R23-28 = H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; R19 = optionally substituted primary, secondary or tertiary hydrocarbyl or heterohydrocarbyl group; when R19 is an optionally substituted primary hydrocarbyl or heterohydrocarbyl group, 1 of R20-22 = H and the others are each independently H, halogen or an optionally substituted primary hydrocarbyl or heterohydrocarbyl group; when R19 is an optionally substituted secondary hydrocarbyl or heterohydrocarbyl group, 2 of R20-22 = H and the other is H, halogen or an optionally substituted primary or secondary hydrocarbyl or heterohydrocarbyl group; when R19 is an optionally substituted tertiary hydrocarbyl or heterohydrocarbyl group, R20-22 = all H; and

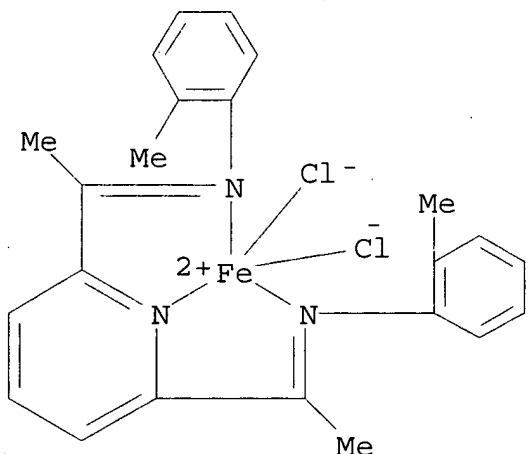
any .gtoreq.2 R19-28 can be linked to form .gtoreq.1 cyclic substituents; and (2) another **catalyst** for the polymn. of 1-olefins which is different from **catalyst** (1). Gas phase polymn. (1 h) of C₂H₄ in the presence of 26 mg 2,6-diacetylpyridinebis(2-methylanil) iron dichloride and 1 g supported bis(n-butylcyclopentadienyl)zirconium dichloride and Me aluminoxane cocatalyst gave polyethylene having polydispersity 13.4, m.p. 115.9.degree., d. 0.917 g/cm³, and crystallinity 44%.

IT 210537-35-2

(pyridine-imine polymn. **catalyst** for olefins)

RN 210537-35-2 HCA

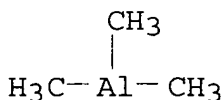
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitril o-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IT 75-24-1, Trimethyl aluminum 97-93-8, Triethyl aluminum, uses 100-99-2, Triisobutyl aluminum, uses 1070-00-4, Tri-n-octyl aluminum (with pyridine-imine polymn. **catalyst** for olefins)

RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



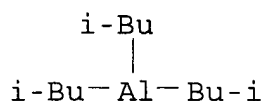
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



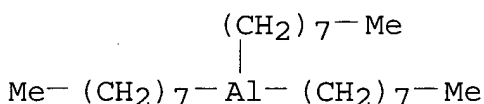
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA

CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08F010-02

ICS C08F004-70

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST mixed **catalyst** olefin polymn; pyridinyl aniline complex
catalyst olefin polymn; Ziegler **catalyst** polymn
olefin

IT Aluminoxanes

(Me; with pyridine-imine polymn. **catalyst** for olefins)

IT Polymerization **catalysts**

(Ziegler-Natta; with pyridine-imine polymn. **catalyst**
for olefins)

IT Polymerization **catalysts**

(bidentate diimine late transition metal; with pyridine-imine
polymn. **catalyst** for olefins)

IT Polymerization **catalysts**

(metallocene; with pyridine-imine polymn. **catalyst** for
olefins)

IT Linear low density polyethylenes

(with pyridine-imine polymn. **catalyst** for olefins)

IT 74-85-1DP, Ethene, polymers with .alpha.-olefins, preparation
(LLDPE; with pyridine-imine polymn. **catalyst** for
olefins)

IT 9002-88-4P, Polyethylene

(heterogeneous; with pyridine-imine polymn. **catalyst**
for olefins)

IT 210537-35-2

(pyridine-imine polymn. **catalyst** for olefins)

IT 75-24-1, Trimethyl aluminum 96-10-6, Diethylaluminum

chloride, uses 97-93-8, Triethyl aluminum, uses

100-99-2, Triisobutyl aluminum, uses 546-68-9, Titanium

tetraisoopropoxide 563-43-9, Ethylaluminum dichloride, uses

917-65-7, Methylaluminum dichloride 1070-00-4, Tri-n-octyl

aluminum 1184-58-3, Dimethylaluminum chloride 1191-47-5,

Dibutylmagnesium 7550-45-0, Titanium tetrachloride, uses

12075-68-2, Ethylaluminum sesquichloride 12542-85-7,

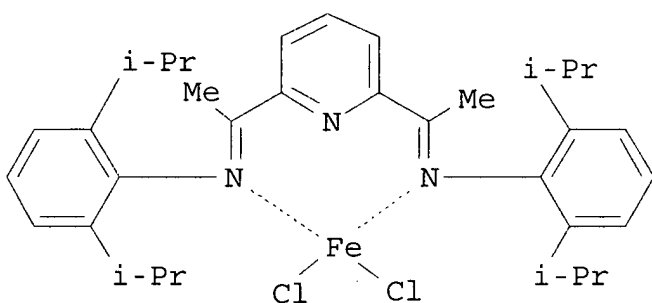
Methylaluminum sesquichloride 73364-10-0, Bis(n-

butylcyclopentadienyl)zirconium dichloride 100080-82-8,
 Rac-ethylenebis(indenyl)zirconium dichloride 119445-92-0,
 Bis(1,3-dimethylcyclopentadienyl)zirconium dichloride
 (with pyridine-imine polymn. **catalyst** for olefins)

L56 ANSWER 15 OF 30 HCA COPYRIGHT 2003 ACS on STN

133:105477 High-activity polymerization **catalysts** and
 preparation of high-molecular-weight linear olefin polymers using
 the **catalysts**. Kanno, Toshihiko; Ishihama, Yoshiyuki;
 Hayakawa, Satoshi (Mitsubishi Chemical Corp., Japan). Jpn. Kokai
 Tokkyo Koho JP 2000198812 A2 **20000718**, 51 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1999-311855 19991102. PRIORITY: JP
 1998-313822 19981105.

GI



II

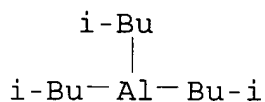
AB The **catalysts** contain (A) transition metal compds. I (A,
 A' = M-coordinating ligands contg. Group 15-16 atoms; Q = linkage
 group contg. ≥ 1 M-coordinating unshared electron pair or π -
 bonding; M = Group 8-9 metals; X = H, halo, hydrocarbyl, O-, N-, P-,
 halo-, or Si-contg. hydrocarbyl; n = valence of M), (B) inorg.
 silicate salts and/or ion-exchangeable layered compds. except for
 silicate salts, and optional (C) org. Al compds. Olefin
 (co)polymers are prepd. by using the above **catalysts**.
 Thus, ethylene was polymd. at 50.degree. and 9 kg/cm² for 1 h in the
 presence of Al(iso-Bu)₃, chem.-modified Kunipia F (montmorillonite),
 and a transition metal compd. II to give polyethylene (PE) with
catalytic activity 3800 g-PE/mmol-Fe, Tm 134.8.degree., Mv
 48.2 .times. 10⁴, and melt index 0.0012 g/10 min.

IT 100-99-2, Triisobutylaluminum, uses **204203-10-1**
207129-94-0

(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)

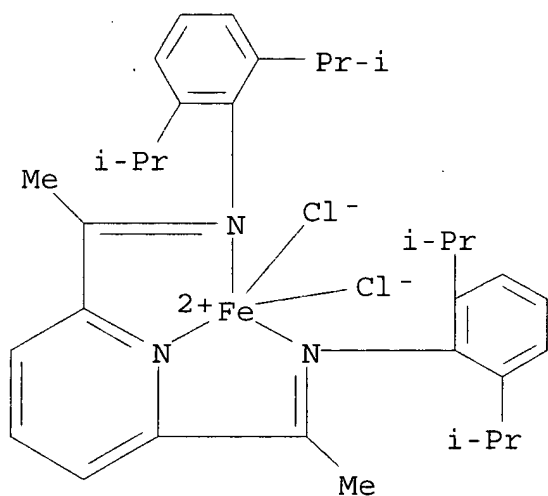
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



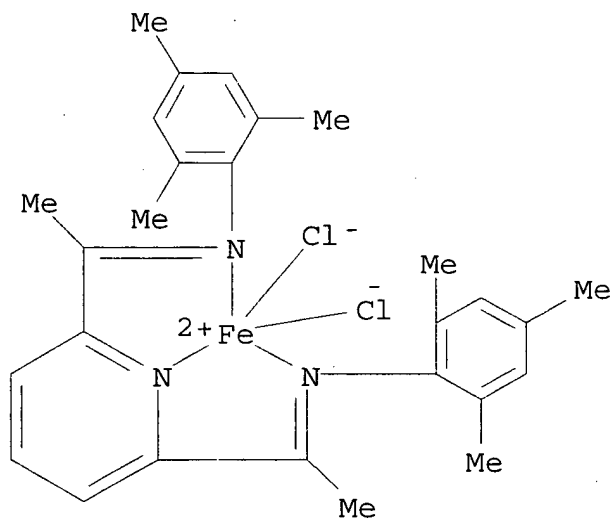
RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)

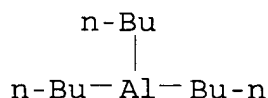


RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)-(9CI) (CA INDEX NAME)

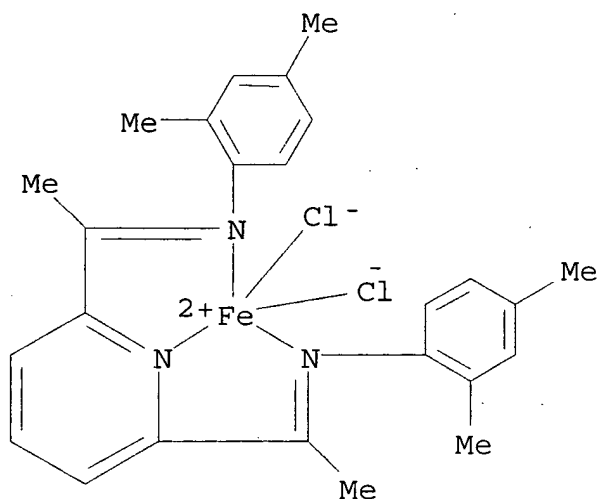


- IC ICM C08F004-70
ICS C08F004-80; C08F010-00
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST polymn olefin **catalyst** linear chain; transition metal
complex polym **catalyst** polyolefin; ethylene polymn
isobutyl aluminum montmorillonite **catalysis**; ion exchange
layered compd **catalyst** polymn olefin; aluminum inorg
catalyst prepn polyethylene
- IT Polymerization **catalysts**
(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)
- IT Mica-group minerals, uses
(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)
- IT Polyolefins
(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)
- IT 187247-40-1, Kunipia F
(chem.-treated; prepn. of high-mol.-wt. linear polyolefins in
presence of **catalysts** contg. transition metal
complexes)
- IT 100-99-2, Triisobutylaluminum, uses 85722-08-3,
Bis(butylcyclopentadienyl)hafnium dichloride 182636-27-7, Somasif
ME 100 204203-10-1 207129-94-0
(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)
- IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene-1-hexene copolymer
(prepn. of high-mol.-wt. linear polyolefins in presence of
catalysts contg. transition metal complexes)
- L56 ANSWER 16 OF 30 HCA COPYRIGHT 2003 ACS on STN
133:105464 Oligomerization **catalysts** for .alpha.-olefin
production and processes for producing .alpha.-olefins. Tanaka,
Shinji; Shiraki, Yasushi; Tamura, Takao; Kuramoto, Masahiko; Sato,
Haruhito; Watanabe, Masami (Idemitsu Petrochemical Co., Ltd.,
Japan). PCT Int. Appl. WO 2000043123 A1 20000727, 40 pp.
DESIGNATED STATES: W: CA, CN, ID, IN, KR, SG, US; RW: AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE.
(Japanese). CODEN: PIXXD2. APPLICATION: WO 2000-JP42 20000107.
PRIORITY: JP 1999-13186 19990121; JP 1999-41334 19990219.
- AB The **catalysts** for producing .alpha.-olefins (e.g.,
1-butene, 1-hexene) through ethylene oligomerization are obtained by
contacting (a) a clay, clay mineral, or lamellar ion-exchanging
compd. with either (b-1) a complex of a transition metal in Groups
4-6 or (b-2) a complex of a transition metal in Groups 8-10 of the
Periodic Table.
- IT 1116-70-7, Tributylaluminum 207129-95-1
(oligomerization **catalysts** for ethylene for prepn. of
.alpha.-olefins)
- RN 1116-70-7 HCA
CN Aluminum, tributyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM B01J031-22

ICS C08F004-656; C08F004-646; C08F004-76; C08F010-02; C07C002-32;
C07C011-02; C07B061-00CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67ST ethylene oligomerization transition metal complex **catalyst**
; clay oligomerization **catalyst** ethylene; lamellar ion
exchanger oligomerization **catalyst**IT Ion exchangers
(lamellar; oligomerization **catalysts** for ethylene for
prepn. of .alpha.-olefins).IT Polymerization **catalysts**
(metallocene; oligomerization **catalysts** for ethylene
for prepn. of .alpha.-olefins)IT Clays, uses
Transition metal complexes
(oligomerization **catalysts** for ethylene for prepn. of
.alpha.-olefins)IT Polymerization
Polymerization **catalysts**
(oligomerization; oligomerization **catalysts** for
ethylene for prepn. of .alpha.-olefins)IT Alkenes, preparation
(.alpha.-; oligomerization **catalysts** for ethylene for

- prepn. of .alpha.-olefins)
- IT 1116-70-7, Tributylaluminum 1291-32-3,
Bis(cyclopentadienyl)zirconium dichloride 187247-40-1, Kunipia F
207129-95-1
(oligomerization **catalysts** for ethylene for prepn. of
.alpha.-olefins)
- IT 106-98-9P, 1-Butene, preparation 592-41-6P, 1-Hexene, preparation
(oligomerization **catalysts** for ethylene for prepn. of
.alpha.-olefins)
- IT 74-85-1, Ethylene, reactions
(oligomerization **catalysts** for ethylene for prepn. of
.alpha.-olefins)
- L56 ANSWER 17 OF 30 HCA COPYRIGHT 2003 ACS on STN
- 133:59218 **Catalyst** system for olefin polymerization. Van
Baar, Jan F.; Schut, Peter A.; Horton, Andrew D.; Dall'occo,
Tiziano; Van Kessel, Gerard M. M. (Montell Technology Company B. V.,
Neth.; Van Baar, Jan F.). PCT Int. Appl. WO 2000035974 A1
20000622, 54 pp. DESIGNATED STATES: W: AU, BR, CA, CN, IL,
JP, KR, RU, SG, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,
IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.
APPLICATION: WO 1999-EP9847 19991213. PRIORITY: EP 1998-204262
19981215.
- AB The title **catalyst** is obtained by contacting (A) .gtoreq.1
comps. of a late transition metals Groups 8-11 and having a
bidentate or tridentate ligand and (B) cocatalyst aluminoxanes, the
reaction product of H2O with .gtoreq.1 organometallic Al comps.
Al(CH2CR3R4R5)xR6yHz, where R3 = C1-20 alkyl, C3-20 cycloalkyl or
C7-20 alkylaryl radical; R4 = C3-20 alkyl, C3-20 cycloalkyl, C6-20
aryl, C7-20 alkylaryl or C7-20 arylalkyl radical; or R3 and R4 form
together a C4-C6 ring; R5 = H or a C1-20 alkyl, C6-20 aryl, C7-20
alkylaryl or arylalkyl radical; R6 = C1-20 alkyl, C3-20 cycloalkyl,
C6-20 aryl, C7-20 alkylaryl or C7-20 arylalkyl radical; x = 1-3; z =
0-1; and y = 3-x-z; the molar ratio between the organometallic Al
compd. and H2O being 0.5-100:1. Thus, C2H4 was polymd. in the
presence of 0.2 .mu.mol iron metallocene **catalyst**
{2,6-[2,4,6-(Me3C6H3)-N:CMelpyridyl}FeCl2 and 2,4,4-trimethylpentyl
aluminoxane (precursor 2,4,4-trimethylpentylaluminum) at Al/Fe ratio
10000 to give polyethylene having wt.-av. mol. wt. 183 .times. 10-3.
- IT 100-99-2, Triisobutylaluminum, uses 16216-31-2,
Tris(2,4,4-trimethylpentyl)aluminum 58336-06-4
64043-87-4 64043-88-5 84012-67-9,
Bis(2,4,4-trimethylpentyl)aluminum hydride 115034-87-2,
Tris(2-phenylpropyl)aluminum 178426-53-4
223700-29-6 223700-30-9 223700-31-0
223700-33-2 223700-34-3 223700-35-4
243662-14-8 243662-15-9 247074-48-2
247074-49-3 247074-51-7 247074-52-8
247074-53-9 247074-54-0 247074-55-1
247074-56-2 247074-57-3 247074-58-4
247074-59-5 247074-60-8 247074-61-9
247074-62-0 247074-64-2 247074-65-3

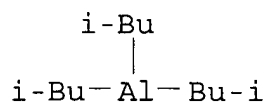
247074-66-4 277333-35-4 277333-36-5

277333-38-7 277334-92-6 277334-93-7

(catalyst precursor; catalyst system for
olefin polymn.)

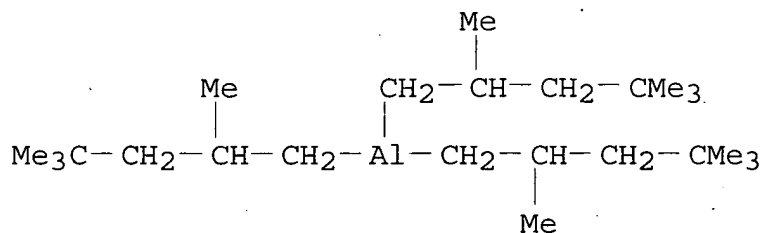
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



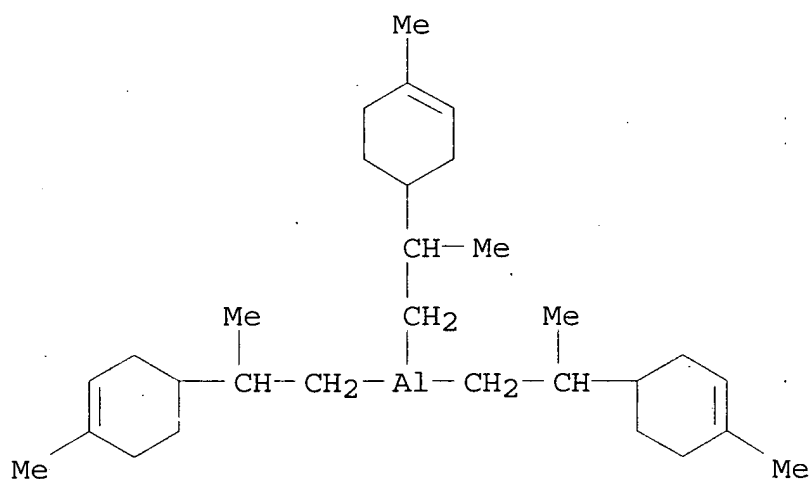
RN 16216-31-2 HCA

CN Aluminum, tris(2,4,4-trimethylpentyl)- (6CI, 8CI, 9CI) (CA INDEX NAME)



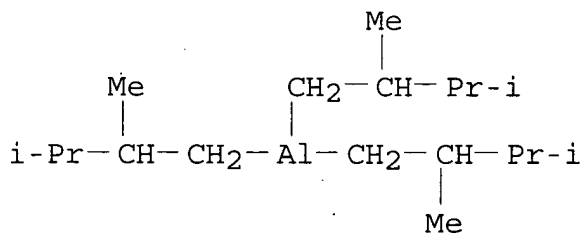
RN 58336-06-4 HCA

CN Aluminum, tris[2-(4-methyl-3-cyclohexen-1-yl)propyl]- (9CI) (CA INDEX NAME)

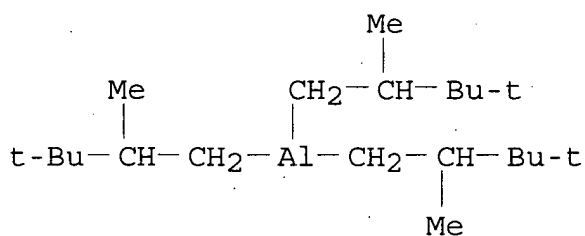


RN 64043-87-4 HCA

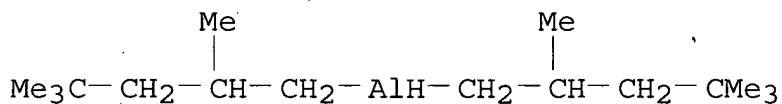
CN Aluminum, tris(2,3-dimethylbutyl)- (9CI) (CA INDEX NAME)



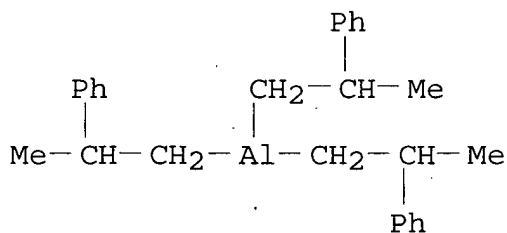
RN 64043-88-5 HCA
 CN Aluminum, tris(2,3,3-trimethylbutyl)- (9CI) (CA INDEX NAME)



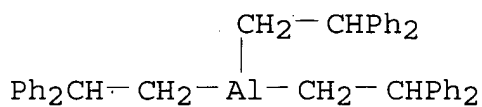
RN 84012-67-9 HCA
 CN Aluminum, hydrobis(2,4,4-trimethylpentyl)- (9CI) (CA INDEX NAME)



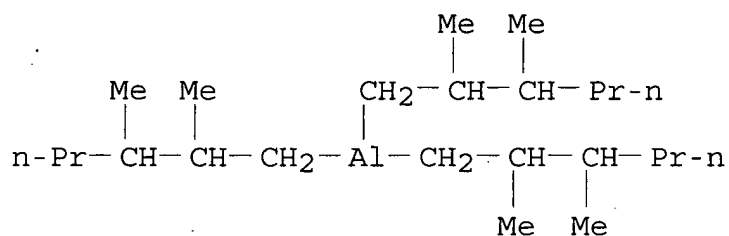
RN 115034-87-2 HCA
 CN Aluminum, tris(2-phenylpropyl)- (9CI) (CA INDEX NAME)



RN 178426-53-4 HCA
 CN Aluminum, tris(2,2-diphenylethyl)- (9CI) (CA INDEX NAME)

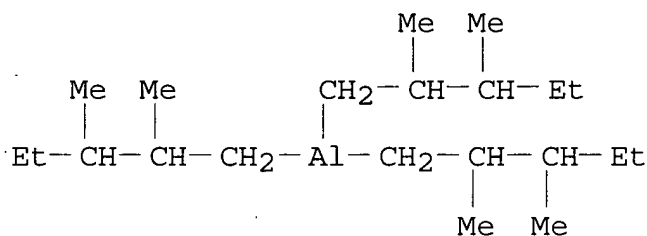


RN 223700-29-6 HCA
 CN Aluminum, tris(2,3-dimethylhexyl)- (9CI) (CA INDEX NAME)



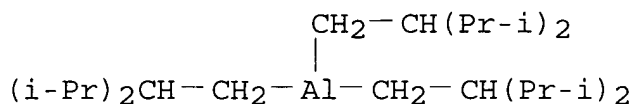
RN 223700-30-9 HCA

CN Aluminum, tris(2,3-dimethylpentyl)- (9CI) (CA INDEX NAME)



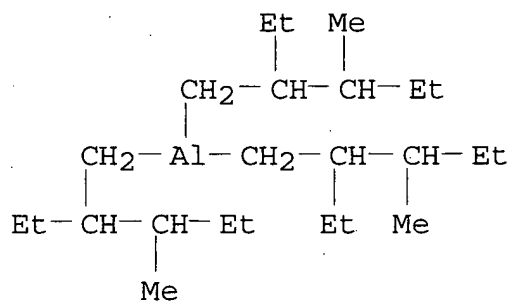
RN 223700-31-0 HCA

CN Aluminum, tris[3-methyl-2-(1-methylethyl)butyl]- (9CI) (CA INDEX NAME)



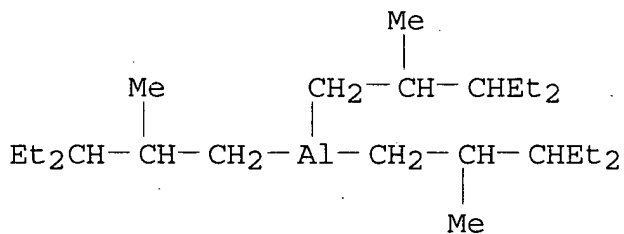
RN 223700-33-2 HCA

CN Aluminum, tris(2-ethyl-3-methylpentyl)- (9CI) (CA INDEX NAME)



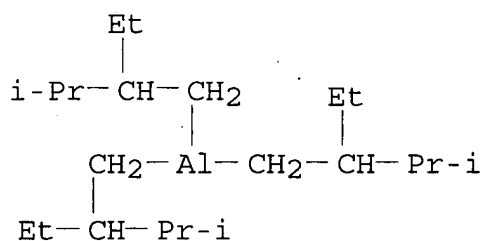
RN 223700-34-3 HCA

CN Aluminum, tris(3-ethyl-2-methylpentyl)- (9CI) (CA INDEX NAME)



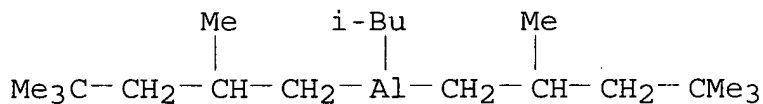
RN 223700-35-4 HCA

CN Aluminum, tris(2-ethyl-3-methylbutyl)- (9CI) (CA INDEX NAME)



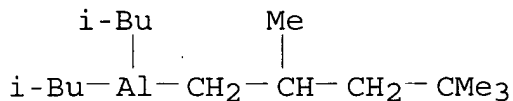
RN 243662-14-8 HCA

CN Aluminum, (2-methylpropyl)bis(2,4,4-trimethylpentyl)- (9CI) (CA INDEX NAME)



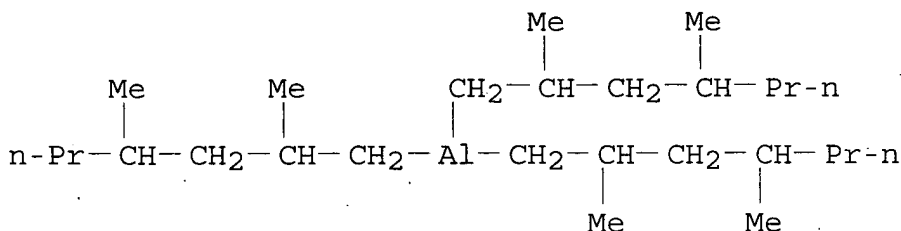
RN 243662-15-9 HCA

CN Aluminum, bis(2-methylpropyl)(2,4,4-trimethylpentyl)- (9CI) (CA INDEX NAME)



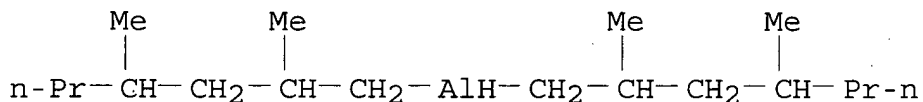
RN 247074-48-2 HCA

CN Aluminum, tris(2,4-dimethylheptyl)- (9CI) (CA INDEX NAME)



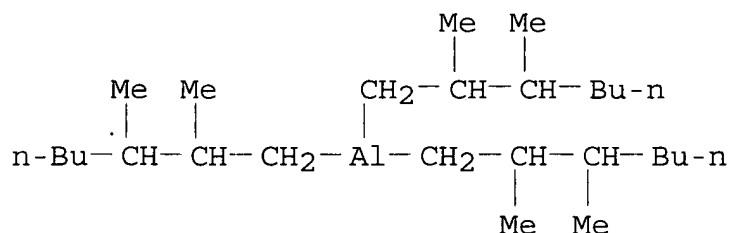
RN 247074-49-3 HCA

CN Aluminum, bis(2,4-dimethylheptyl)hydro- (9CI) (CA INDEX NAME)



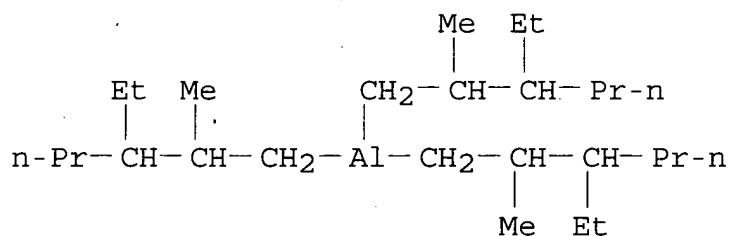
RN 247074-51-7 HCA

CN Aluminum, tris(2,3-dimethylheptyl)- (9CI) (CA INDEX NAME)



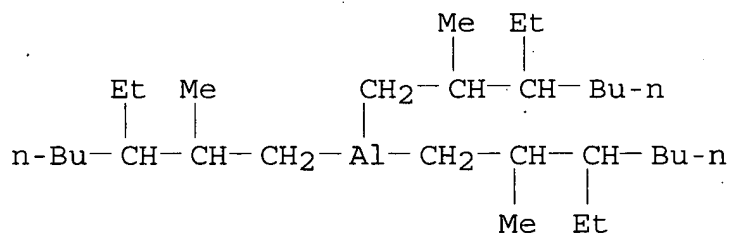
RN 247074-52-8 HCA

CN Aluminum, tris(3-ethyl-2-methylhexyl)- (9CI) (CA INDEX NAME)



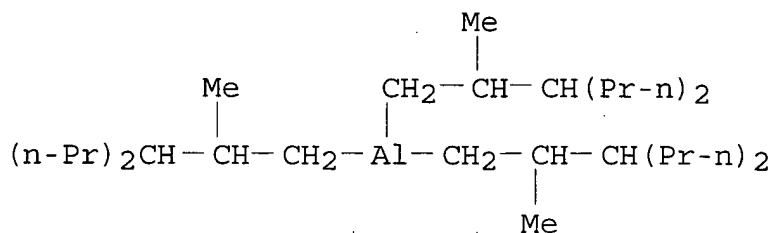
RN 247074-53-9 HCA

CN Aluminum, tris(3-ethyl-2-methylheptyl)- (9CI) (CA INDEX NAME)



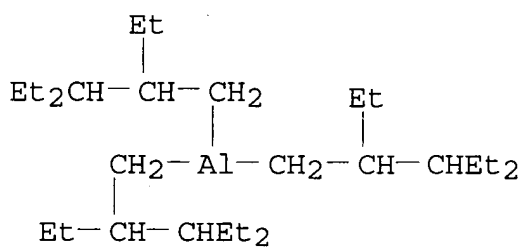
RN 247074-54-0 HCA

CN Aluminum, tris(2-methyl-3-propylhexyl)- (9CI) (CA INDEX NAME)



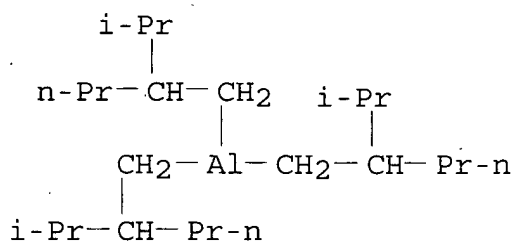
RN 247074-55-1 HCA

CN Aluminum, tris(2,3-diethylpentyl)- (9CI) (CA INDEX NAME)



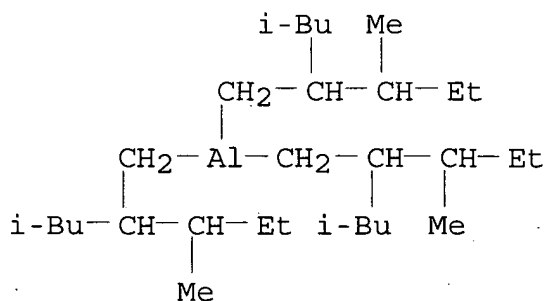
RN 247074-56-2 HCA

CN Aluminum, tris[2-(1-methylethyl)pentyl]- (9CI) (CA INDEX NAME)



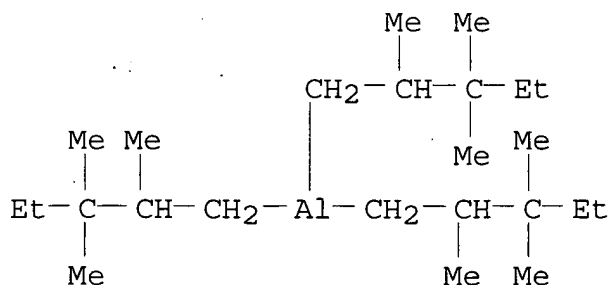
RN 247074-57-3 HCA

CN Aluminum, tris[3-methyl-2-(2-methylpropyl)pentyl]- (9CI) (CA INDEX NAME)



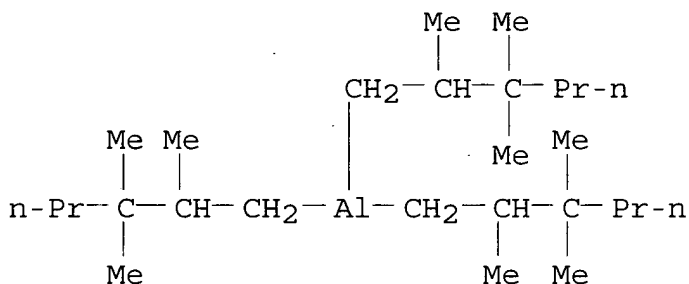
RN 247074-58-4 HCA

CN Aluminum, tris(2,3,3-trimethylpentyl)- (9CI) (CA INDEX NAME)



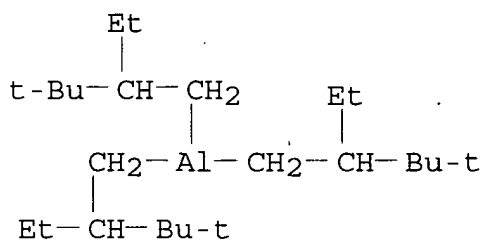
RN 247074-59-5 HCA

CN Aluminum, tris(2,3,3-trimethylhexyl)- (9CI) (CA INDEX NAME)



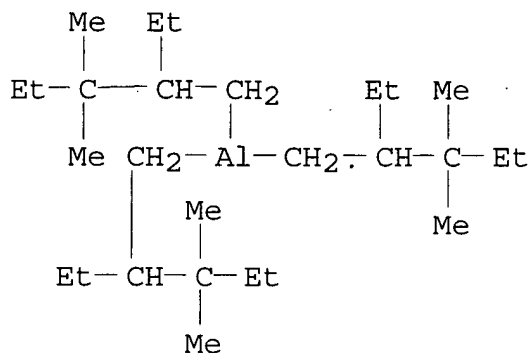
RN 247074-60-8 HCA

CN Aluminum, tris(2-ethyl-3,3-dimethylbutyl)- (9CI) (CA INDEX NAME)



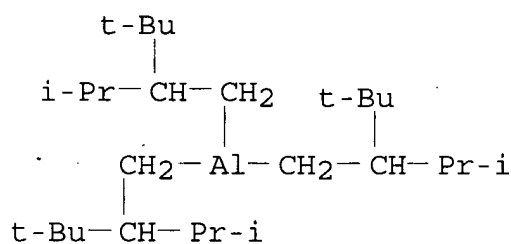
RN 247074-61-9 HCA

CN Aluminum, tris(2-ethyl-3,3-dimethylpentyl)- (9CI) (CA INDEX NAME)



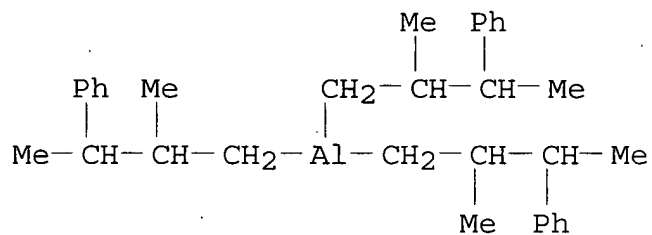
RN 247074-62-0 HCA

CN Aluminum, tris[3,3-dimethyl-2-(1-methylethyl)butyl]- (9CI) (CA INDEX NAME)



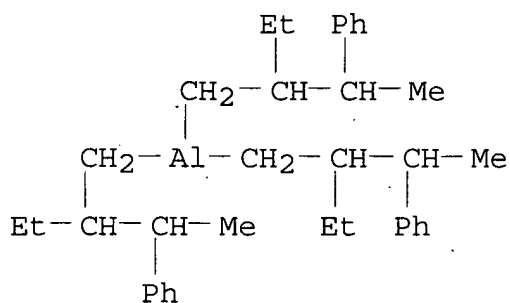
RN 247074-64-2 HCA

CN Aluminum, tris(2-methyl-3-phenylbutyl)- (9CI) (CA INDEX NAME)



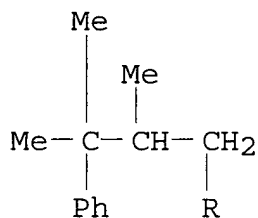
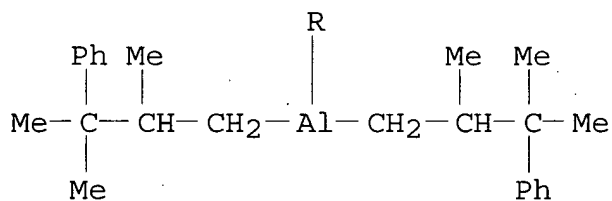
RN 247074-65-3 HCA

CN Aluminum, tris(2-ethyl-3-phenylbutyl)- (9CI) (CA INDEX NAME)



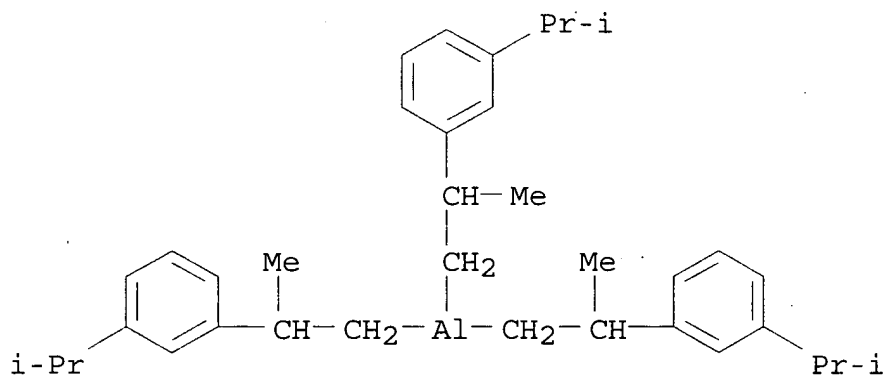
RN 247074-66-4 HCA

CN Aluminum, tris(2,3-dimethyl-3-phenylbutyl)- (9CI) (CA INDEX NAME)



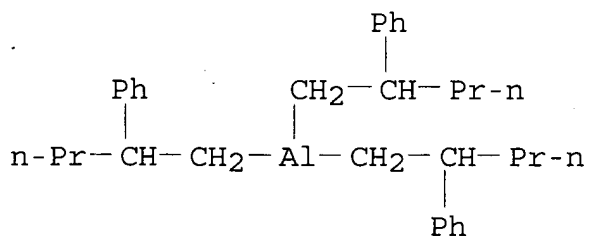
RN 277333-35-4 HCA

CN Aluminum, tris[2-[3-(1-methylethyl)phenyl]propyl]- (9CI) (CA INDEX NAME)



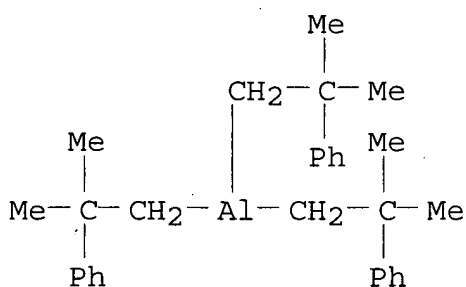
RN 277333-36-5 HCA

CN Aluminum, tris(2-phenylpentyl)- (9CI) (CA INDEX NAME)



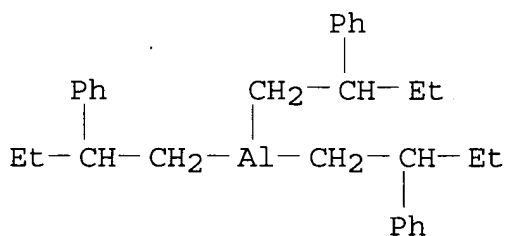
RN 277333-38-7 HCA

CN Aluminum, tris(2-methyl-2-phenylpropyl)- (9CI) (CA INDEX NAME)



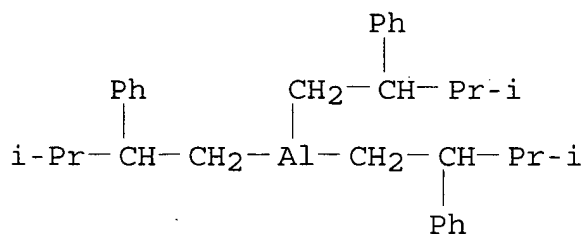
RN 277334-92-6 HCA

CN Aluminum, tris(2-phenylbutyl)- (9CI) (CA INDEX NAME)



RN 277334-93-7 HCA

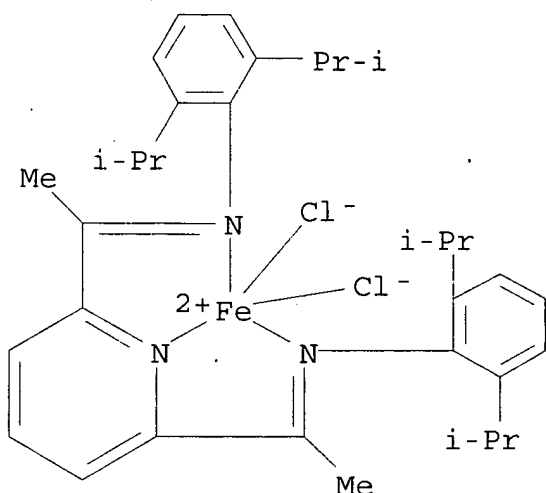
CN Aluminum, tris(3-methyl-2-phenylbutyl)- (9CI) (CA INDEX NAME)



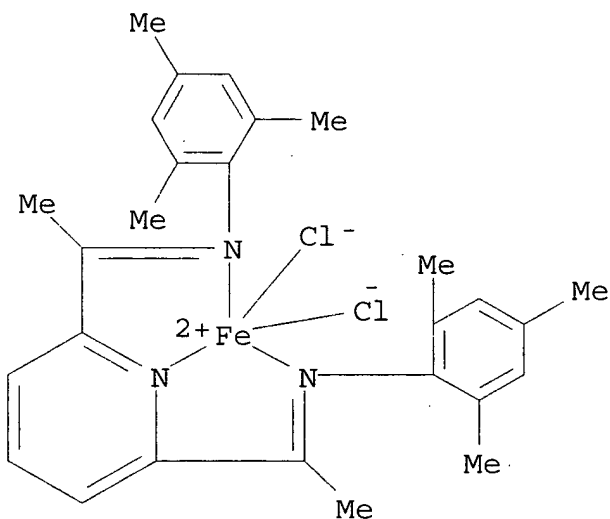
IT 204203-10-1 207129-94-0

(catalyst system for olefin polymn.)

RN 204203-10-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13) - (9CI) (CA INDEX NAME)



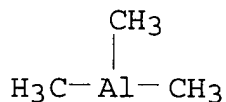
RN 207129-94-0 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22) - (9CI) (CA INDEX NAME)



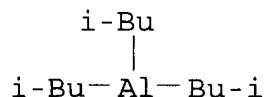
IC ICM C08F110-02
 ICS C08F004-70
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST alkyl aluminoxane cocatalyst polymn ethylene; iron metallocene
catalyst polymn ethylene; aluminum compd water adduct

- cocatalyst polymn
IT Aluminoxanes
 (alkyl; **catalyst** system for olefin polymn.)
IT Polymerization **catalysts**
 (**catalyst** system for olefin polymn.)
IT 100-99-2, Triisobutylaluminum, uses 16216-31-2,
 Tris(2,4,4-trimethylpentyl)aluminum 58336-06-4
 64043-87-4 64043-88-5 84012-67-9,
 Bis(2,4,4-trimethylpentyl)aluminum hydride 115034-87-2,
 Tris(2-phenylpropyl)aluminum 178426-53-4
 223700-29-6 223700-30-9 223700-31-0
 223700-33-2 223700-34-3 223700-35-4
 243662-14-8 243662-15-9 247074-48-2
 247074-49-3 247074-51-7 247074-52-8
 247074-53-9 247074-54-0 247074-55-1
 247074-56-2 247074-57-3 247074-58-4
 247074-59-5 247074-60-8 247074-61-9
 247074-62-0 247074-63-1 247074-64-2
 247074-65-3 247074-66-4 277333-33-2
 277333-34-3 277333-35-4 277333-36-5
 277333-37-6 277333-38-7 277334-92-6
 277334-93-7
 (**catalyst** precursor; **catalyst** system for
 olefin polymn.)
IT 75180-85-7 163893-70-7 204203-10-1 207129-94-0
 (**catalyst** system for olefin polymn.)
IT 9002-88-4P, Polyethylene
 (**catalyst** system for olefin polymn.)

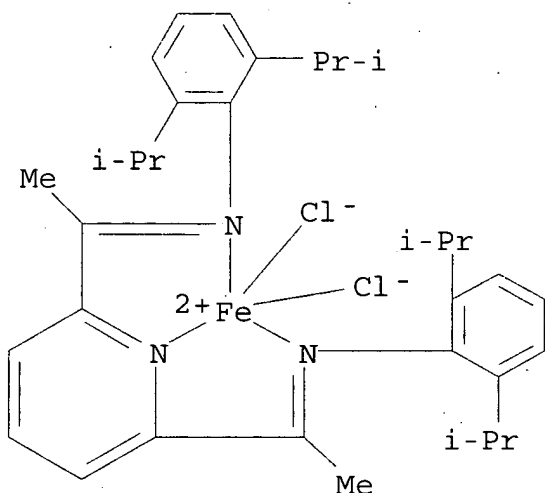
L56 ANSWER 18 OF 30 HCA COPYRIGHT 2003 ACS on STN
133:17992 **Catalysts** for olefin polymerization and process for
 producing olefin polymers. Okuda, Fumio; Sato, Haruhito; Kuramoto,
 Masahiko (Idemitsu Petrochemical Co., Ltd., Japan). PCT Int. Appl.
 WO 2000032642 A1 20000608, 52 pp. DESIGNATED STATES: W:
 JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT,
 LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO
 1999-JP6767 19991202. PRIORITY: JP 1998-342457 19981202; JP
 1998-342459 19981202.
AB The **catalysts** comprise a compd. of a transition metal in
 Groups 8-10 of the Periodic Table having a nitrogenous tridentate
 ligand, a clay, clay mineral, or lamellar ion-exchanging compd., an
 organosilane compd., an organoaluminum compd., etc. The
 catalysts are highly active, do not adhere to reactor walls,
 and can give a polyolefin excellent in powder morphol.
 Consequently, a polyolefin (esp. polyethylene) can be industrially
 advantageously produced.
IT 75-24-1, Trimethylaluminum 100-99-2,
 Triisobutylaluminum, uses 204203-10-1
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
RN 75-24-1 HCA
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)

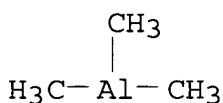


RN 204203-10-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)

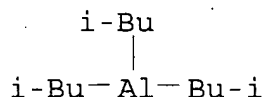


IC ICM C08F004-70
 ICS C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST ethylene polymn **catalyst**; nitrogen tridentate ligand
 transition metal complex **catalyst**; polyolefin high mol wt
 prepn
 IT Polymerization **catalysts**
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT Clays, uses
 Transition metal complexes
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT Polyolefins

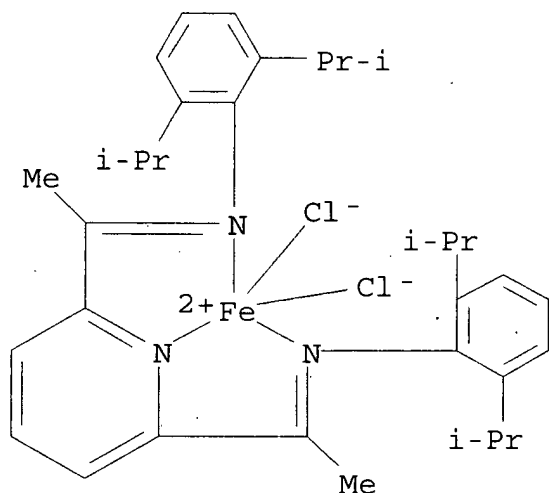
- (highly active transition metal complex **catalysts** contg. nitrogenous tridentate ligands for olefin polymn.)
- IT Ion exchangers
(lamellar; highly active transition metal complex **catalysts** contg. nitrogenous tridentate ligands for olefin polymn.)
- IT 75-24-1, Trimethylaluminum 100-99-2,
Triisobutylaluminum, uses 1318-93-0, Montmorillonite, uses 7786-30-3, Magnesium chloride, uses 114502-16-8 187247-40-1,
Kunipia F 204203-10-1
(highly active transition metal complex **catalysts** contg. nitrogenous tridentate ligands for olefin polymn.)
- IT 9002-88-4P, Polyethylene
(highly active transition metal complex **catalysts** contg. nitrogenous tridentate ligands for olefin polymn.)
- L56 ANSWER 19 OF 30 HCA COPYRIGHT 2003 ACS on STN
- 133:5119 **Catalysts** for olefin polymerization and process for producing olefin polymers. Okuda, Fumio (Idemitsu Petrochemical Co., Ltd., Japan). PCT Int. Appl. WO 2000032643 A1 20000608, 27 pp. DESIGNATED STATES: W: JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP6768 19991202. PRIORITY: JP 1998-342458 19981202.
- AB The **catalysts** comprise a compd. of a transition metal in Groups 8-10 of the Periodic Table having a nitrogenous tridentate ligand and an organoaluminum compd. such as trimethylaluminum. The **catalysts** are highly active and enable a high-mol. polyolefin to be produced. Consequently, a high-mol. polyolefin (esp. polyethylene) suitable for practical use can be industrially advantageously produced without using methylaluminoxane, which is expensive, has poor handleability and poor storage stability, and is highly dangerous.
- IT 75-24-1, Trimethylaluminum 100-99-2,
Triisobutylaluminum, uses 204203-10-1
(highly active transition metal complex **catalysts** contg. nitrogenous tridentate ligands for olefin polymn.)
- RN 75-24-1 HCA
- CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



- RN 100-99-2 HCA
- CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 204203-10-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13) - (9CI) (CA INDEX NAME)

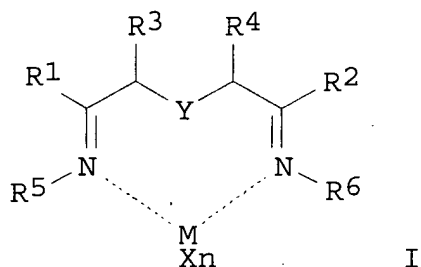


IC ICM C08F004-70
 ICS C08F010-00
 CC 35-3 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 67
 ST ethylene polymn **catalyst**; nitrogen tridentate ligand
 transition metal complex **catalyst**; polyolefin high mol wt
 prepn
 IT Polymerization **catalysts**
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT Transition metal complexes
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT Polyolefins
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT 75-24-1, Trimethylaluminum 100-99-2,
 Triisobutylaluminum, uses 204203-10-1
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)
 IT 9002-88-4P, Polyethylene
 (highly active transition metal complex **catalysts**
 contg. nitrogenous tridentate ligands for olefin polymn.)

L56 ANSWER 20 OF 30 HCA COPYRIGHT 2003 ACS on STN
 132:348151 Manufacture of ethylene-.alpha.-olefin copolymers in the
 presence of transition metal imine **catalysts**. Dohi,
 Yasushi; Takagi, Sachihiro; Fujita, Terunori (Mitsui Chemicals Inc.,

Japan). Jpn. Kokai Tokkyo Koho JP 2000143716 A2 20000526,
57 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-323612
19981113.

GI

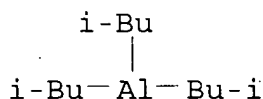


AB The copolymers with narrow mol.-wt. distribution are manufd. by
polymn. of ethylene with C.gtoreq.3 .alpha.-olefins in the presence
of **catalysts** composed of (A) transition metal imine
compds. I [M = Group 8-11 transition metal; R1-R6 = H, halo,
(halo-substituted) hydrocarbyl, heterocycle residue, O-, N-, B-, S-,
P-, Si-, Ge-, or Sn-contg. group; R5 = R6 .noteq. H; neighboring
groups may form a ring; n = valence of M; X = H, halo, C1-20
(halo-substituted) hydrocarbyl, O-, S-, or Si-contg. group; Y =
Group 15 or 16 atom] and (B) organometallic compds., org. aluminoxy
compds., and/or compds. to form ion pairs with I. Thus, ethylene
and propylene were polymd. at 25.degree. for 10 min in the presence
of 1.25 mmol (as Al) Me aluminoxane and 0.005 mmol II to give a
polymer with ethylene content 99.0 mol%, intrinsic viscosity 1.51.
dL/g, and mol. wt. distribution 5.73.

IT 100-99-2, Triisobutylaluminum, uses
(**catalyst** contg.; manuf. of ethylene-.alpha.-olefin
copolymers in presence of transition metal imine
catalysts)

RN 100-99-2 HCA

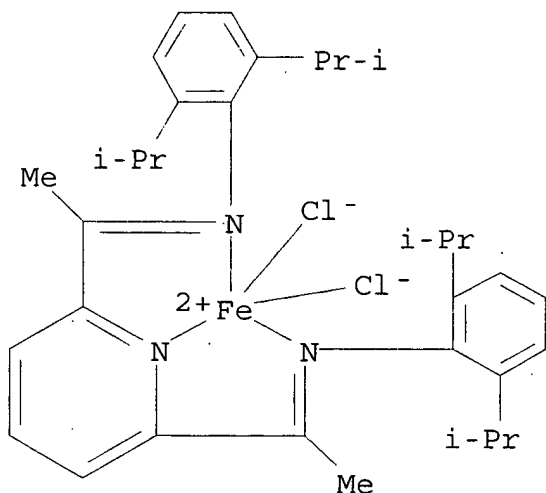
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



IT 204203-10-1 207129-94-0
(manuf. of ethylene-.alpha.-olefin copolymers in presence of
transition metal imine **catalysts**)

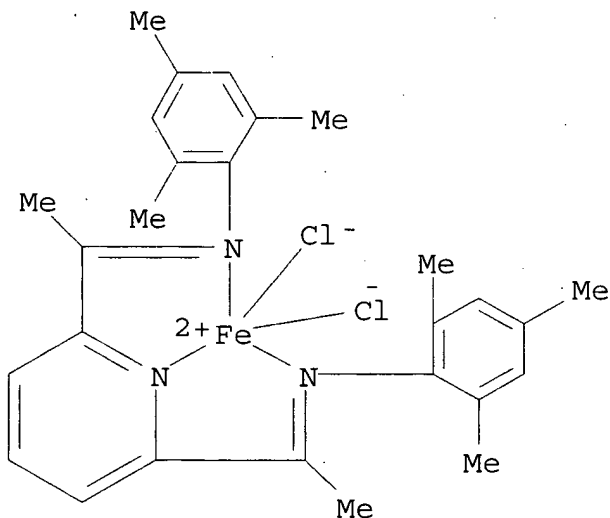
RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-
bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA
INDEX NAME)



RN 207129-94-0 HCA

CN Iron, dichloro[N,N' - [(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22) - (9CI) (CA INDEX NAME)



IC ICM C08F004-70

ICS C08F210-16

CC 35-4 (Chemistry of Synthetic High Polymers)

ST transition metal imine polymn **catalyst** ethylene olefin copolymer; propylene ethylene polymn **catalyst**

IT Aluminoxanes

(Me, **catalyst** contg.; manuf. of ethylene-.alpha.-olefin copolymers in presence of transition metal imine **catalysts**)

IT Polymerization **catalysts**

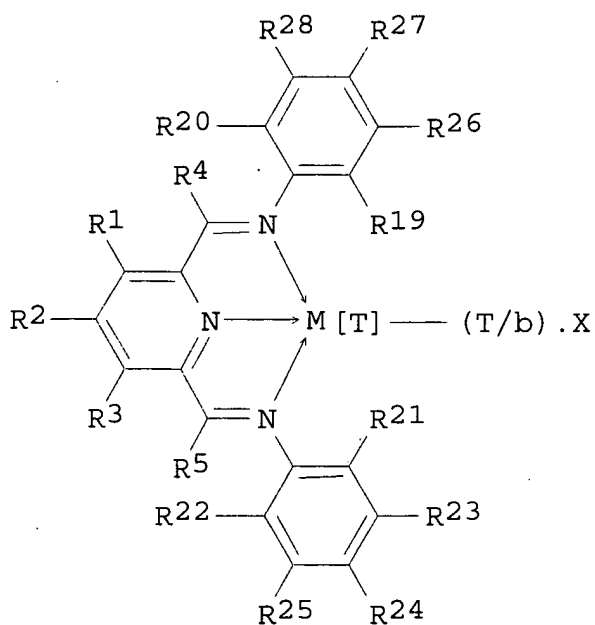
(manuf. of ethylene-.alpha.-olefin copolymers in presence of

- transition metal imine **catalysts**)
- IT 100-99-2, Triisobutylaluminum, uses 136040-19-2, Triphenylcarbenium tetrakis(pentafluorophenyl)borate (**catalyst** contg.; manuf. of ethylene-.alpha.-olefin copolymers in presence of transition metal imine **catalysts**)
- IT 204203-10-1 207129-94-0 (manuf. of ethylene-.alpha.-olefin copolymers in presence of transition metal imine **catalysts**)
- IT 9010-79-1P, Ethylene-propylene copolymer (manuf. of ethylene-.alpha.-olefin copolymers in presence of transition metal imine **catalysts**)

L56 ANSWER 21 OF 30 HCA COPYRIGHT 2003 ACS on STN

132:237522 Iron, cobalt, manganese, and ruthenium complex polymerization **catalysts**, their manufacture and use in polymerizing olefins. Gibson, Vernon Charles; Kimberley, Brian Stephen; Maddox, Peter James; Mastroianni, Sergio (Bp Chemicals Ltd., UK). PCT Int. Appl. WO 2000015646 A1 **20000323**, 36 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB2888 19990901. PRIORITY: GB 1998-19847 19980912.

GI

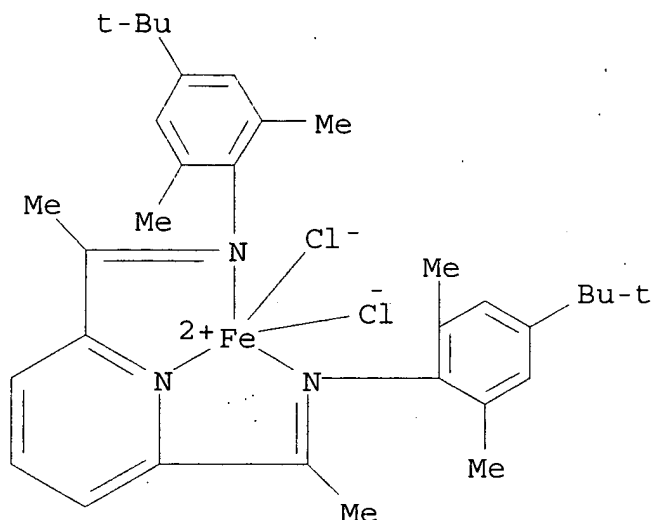


AB A N-contg. transition metal complex (optionally supported) is useful for the polymn. of 1-olefins, where (I) ($M = \text{Fe[II]}, \text{Fe[III]}, \text{Co[I]}, \text{Co[II]}, \text{Co[III]}, \text{Mn[I]}, \text{Mn[II]}, \text{Mn[III]}, \text{Mn[IV]}, \text{Ru[II]}, \text{Ru[III]}, \text{or Ru[IV]}$]; $X = \text{atom or group covalently or ionically bonded to the transition metal } M$; T is the oxidn. state of the transition metal M and b is the valency of the atom or group X ; $R_1, R_2, R_3, R_4, R_6, R_{19}, R_{20}, R_{21}, R_{22}, R_{23}, R_{25}, R_{26}$ and $R_{28} = \text{H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl}$; when any two or more of R_1, R_2, R_3, R_4 and R_5 are hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, the .gtoreq.2 can be linked to form .gtoreq.1 cyclic substituents; characterized in that R_{24} and R_{27} are either both halogen or .gtoreq.1 of them has .gtoreq.2 C atoms) is present with .gtoreq.1 activator selected from organoaluminum, hydrocarbylboron, salts of cationic oxidizer, and non-coordinating anion. Thus, C_2H_4 and hexene were polymd. (gas phase) in the presence of trimethylaluminum and 2,6-diacetylpyridinebis(2,6-dimethyl-4-tert-butylanil)iron dichloride at 80.degree. to give copolymer having wt.-av. mol. wt. 48,000, polydispersity 5.9, and 0.2 Bu branches/1000 C atoms.

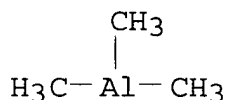
IT **261787-81-9P**
 ((supported); iron, cobalt, manganese, and ruthenium complex polymn. **catalysts**, manuf. and use in polymg. olefins)

RN 261787-81-9 HCA

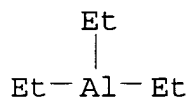
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



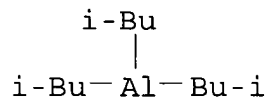
IT 75-24-1, Trimethylaluminum 97-93-8,
 Triethylaluminum, uses 100-99-2, Triisobutylaluminum, uses
 1070-00-4, Aluminum, trioctyl-
 (activator; iron, cobalt, manganese, and ruthenium complex
 polymn. **catalysts**, manuf. and use in polymg. olefins)
 RN 75-24-1 HCA
 CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



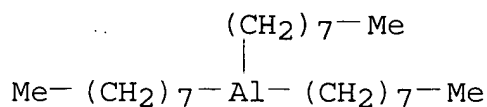
RN 97-93-8 HCA
 CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

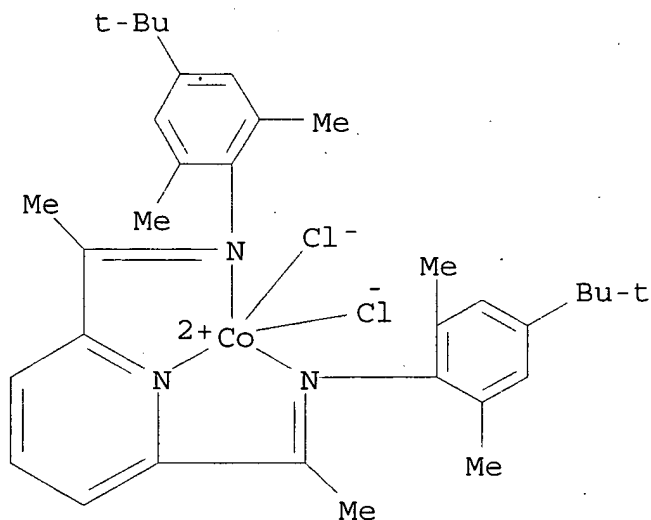


IT 261787-84-2 261787-85-3 261787-86-4
261787-87-5

(iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)

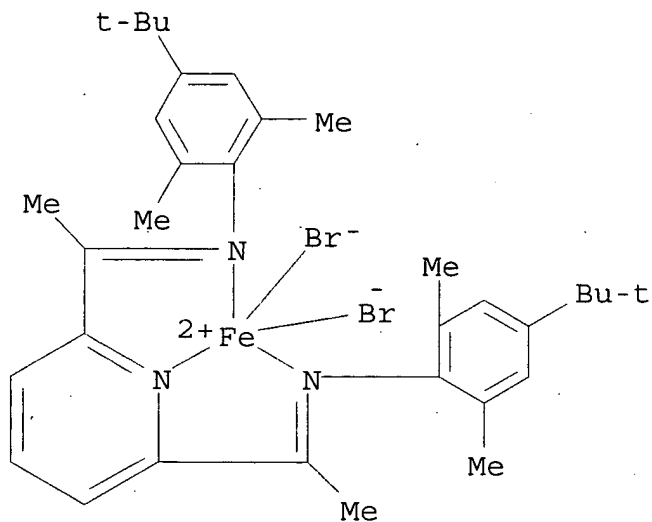
RN 261787-84-2 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



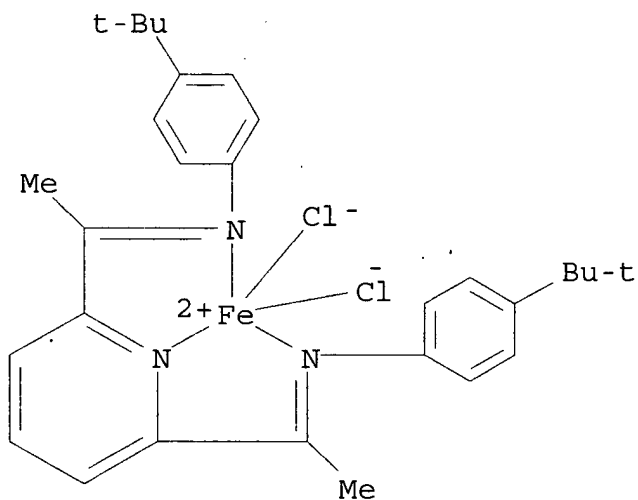
RN 261787-85-3 HCA

CN Iron, dibromo[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-(1,1-dimethylethyl)-2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



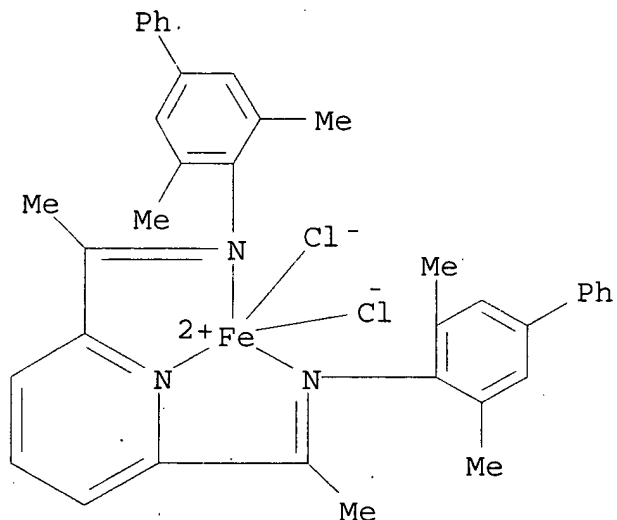
RN 261787-86-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-(1,1-dimethylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 261787-87-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[3,5-dimethyl[1,1'-biphenyl]-4-amine-.kappa.N]]- (9CI) (CA INDEX NAME)

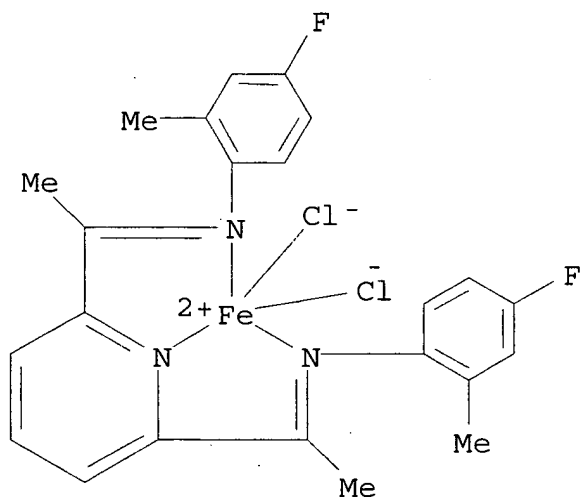


IT 261787-83-1P

(iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)

RN 261787-83-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[4-fluoro-2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IC ICM C07F013-00

ICS C07F015-00; C07F015-02; C07F015-06; C08F004-695; C08F004-70;
C08F010-02

CC 35-3 (Chemistry of Synthetic High Polymers)

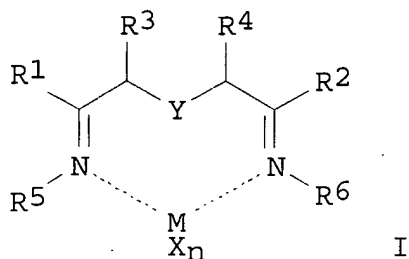
Section cross-reference(s): 78

ST iron complex **catalyst** olefin polymn; cobalt complex
catalyst olefin polymn; manganese complex **catalyst**
olefin polymn; ruthenium complex **catalyst** olefin polymn;

- ethylene copolymer manuf **catalyst**; acetylpyridine
dimethylbutylanil iron dichloride **catalyst** polymn.
- IT Aluminoxanes
(Me, activator; iron, cobalt, manganese, and ruthenium complex
polymn. **catalysts**, manuf. and use in polymg. olefins)
- IT 261787-81-9P
((supported); iron, cobalt, manganese, and ruthenium complex
polymn. **catalysts**, manuf. and use in polymg. olefins)
- IT 75-24-1, Trimethylaluminum 96-10-6, Diethylaluminum
chloride, uses 97-93-8, Triethylaluminum, uses
100-99-2, Triisobutylaluminum, uses 563-43-9,
Ethylaluminum dichloride, uses 917-65-7, Methylaluminum dichloride
1070-00-4, Aluminum, trioctyl- 1184-58-3, Dimethylaluminum
chloride 12075-68-2, Ethylaluminum sesquichloride 12542-85-7,
Methylaluminum sesquichloride
(activator; iron, cobalt, manganese, and ruthenium complex
polymn. **catalysts**, manuf. and use in polymg. olefins)
- IT 452-71-1, 2-Methyl-4-fluoroaniline 1129-30-2, 2,6-Diacetylpyridine
42014-60-8
(in **catalyst** manuf.; iron, cobalt, manganese, and
ruthenium complex polymn. **catalysts**, manuf. and use in
polymg. olefins)
- IT 261787-84-2 261787-85-3 261787-86-4
261787-87-5
(iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)
- IT 261787-83-1P
(iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)
- IT 7758-94-3, Iron chloride FeCl₂
(iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)
- IT 261787-80-8 261787-82-0
(ligand; iron, cobalt, manganese, and ruthenium complex polymn.
catalysts, manuf. and use in polymg. olefins)
- IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene-1-hexene copolymer
(substantially linear; iron, cobalt, manganese, and ruthenium
complex polymn. **catalysts**, manuf. and use in polymg.
olefins)

L56 ANSWER 22 OF 30 HCA COPYRIGHT 2003 ACS on STN
132:50399 Transition metal imine-organic aluminumoxy compound
catalysts and polymerization of olefins using them. Doi,
Yasushi; Matsui, Shigekazu; Fujita, Terunori (Mitsui Chemicals Inc.,
Japan). Jpn. Kokai Tokkyo Koho JP 2000001513 A2 20000107,
55 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-171138
19980618.

GI



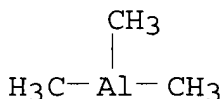
AB Title **catalysts** comprise (A) transition metal imines I [M = Group 8-11 metal; R1-R4 = H, halo, (halogenated) hydrocarbyl, heterocyclic group, O-, N-, B-, S-, P-, Si-, Ge-, or Sn-contg. group; R5, R6 = halo, (halogenated) hydrocarbyl, heterocyclic group, O-, N-, B-, S-, P-, Si-, Ge-, or Sn-contg. group; R1 and R5, R2 and R6, R1 and R3, R2 and R4, or R3 and R4 may form ring; X = H, halo, (halogenated) C1-20 hydrocarbyl, O-, S-, or Si-contg. group; Y = Group 15 or 16 element], (B) (a) B-contg. org. aluminumoxy compds. R322AlOBR31OAlR322 (R31 = C1-10 hydrocarbyl; R32 = H, halo, C1-10 hydrocarbyl) or (b) clays, clay minerals, or ion-exchanging layered compds., and optionally (C) organometallic compds. Polyolefins with narrow mol. wt. distribution are obtained by using the **catalysts**. Thus, ethylene was polymd. in the presence of a reaction product of butylboronic acid and (iso-Bu)₃Al, diisobutylaluminum(2,6-di-tert-butyl-4-methylphenoxide), and I to give a polymer with intrinsic viscosity (decalin, at 135.degree.) 2.11 dL/g.

IT 75-24-1, Trimethylaluminum 204203-10-1
207129-94-0

(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)

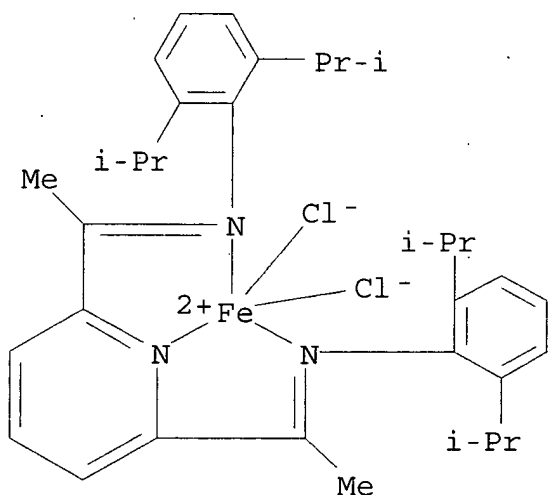
RN 75-24-1 HCA

CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

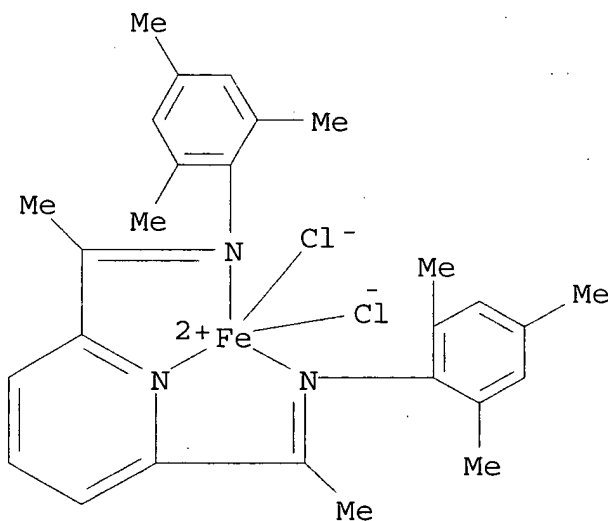


RN 204203-10-1 HCA

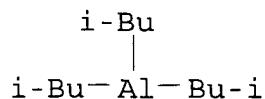
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



RN 207129-94-0 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22) - (9CI) (CA INDEX NAME)



IT 100-99-2, Triisobutylaluminum, reactions
 (transition metal imine-org. aluminumoxy compd. **catalysts**
 for polymn. of olefins)
 RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl) - (9CI) (CA INDEX NAME)



IC ICM C08F004-70
ICS C08F010-00
CC 35-3 (Chemistry of Synthetic High Polymers)
ST transition metal imine **catalyst** olefin polymn; aluminumoxy
compd **catalyst** olefin polymn
IT Transition metal complexes
Transition metal complexes
(imine; transition metal imine-org. aluminumoxy compd.
catalysts for polymn. of olefins)
IT Imines
Imines
(transition metal complexes; transition metal imine-org.
aluminumoxy compd. **catalysts** for polymn. of olefins)
IT Polymerization **catalysts**
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT Clay minerals
Clays, uses
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT Polyolefins
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT 75-24-1, Trimethylaluminum 1318-93-0, Montmorillonite K
10, uses 56252-56-3, Diisobutylaluminum(2,6-di-tert-butyl-4-
methylphenoxide) 204203-10-1 207129-94-0
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT 218145-35-8P
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT 100-99-2, Triisobutylaluminum, reactions
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT 9002-88-4P, Polyethylene 9010-79-1P, Ethylene-propylene copolymer
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)
IT 4426-47-5, Butylboronic acid
(transition metal imine-org. aluminumoxy compd. **catalysts**
for polymn. of olefins)

L56 ANSWER 23 OF 30 HCA COPYRIGHT 2003 ACS on STN

132:36203 Preparation of molecular weight-controlled polyolefins by
using iron or cobalt complex **catalysts** and hydrogen chain
transfer agent. Arthur, Samuel David; Citron, Joel David (E.I. Du
Pont de Nemours and Company, USA). PCT Int. Appl. WO 9962963 A1
19991209, 14 pp. DESIGNATED STATES: W: AE, AL, AU, BA, BB,
BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP,
KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK,
SL, TR, TT, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM;
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA,

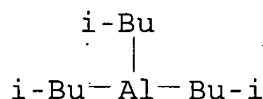
GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 1999-US11556 19990526.
PRIORITY: US 1998-87296 19980529.

AB The polyolefin controlled mol. wt. is prepd. by polymg. .gtoreq.1
olefin (e.g., ethylene) in the presence of an active
catalyst contg. an iron or cobalt complex of a
2,6-pyridinecarboxaldehyde diimine or a 2,6-diacetylpyridine diimine
and hydrogen as chain transfer agent.

IT 100-99-2, Triisobutylaluminum, uses 204203-10-1
(**catalyst**; prepn. of mol. wt.-controlled polyolefins by
using iron or cobalt complex **catalysts** and hydrogen
chain transfer agent)

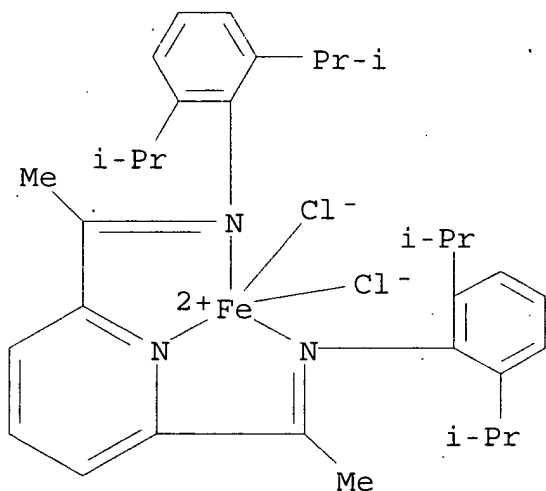
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-
bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA
INDEX NAME)



IC ICM C08F004-70

ICS C08F002-42; C08F004-26; C08F010-00

CC 35-4 (Chemistry of Synthetic High Polymers)

ST polyolefin controlled mol wt prepn; iron cobalt complex
pyridinecarboxaldehyde diimine **catalyst**; diacetylpyridine
diimine iron cobalt complex **catalyst**; hydrogen chain
transfer agent ethylene polymn

IT Aluminoxanes

(alkyl Me, MMAO 3A, **catalysts**; prepn. of mol.

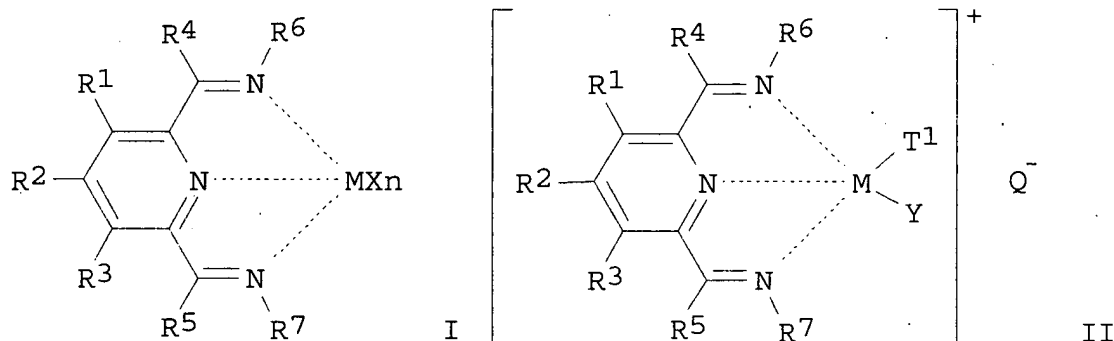
- wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT Transition metal complexes
Transition metal complexes
(imine, 2,6-pyridinecarboxaldehyde- or 2,6-diacetylpyridine-, **catalysts**; prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT Chain transfer agents
Polymerization
Polymerization **catalysts**
(prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT Polyolefins
(prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT Imines
Imines
(transition metal complexes, 2,6-pyridinecarboxaldehyde- or 2,6-diacetylpyridine-, **catalysts**; prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT 100-99-2, Triisobutylaluminum, uses 204203-10-1
(**catalyst**; prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT 1333-74-0, Hydrogen, uses
(chain transfer agent; prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT 7439-89-6, Iron, uses 7440-48-4, Cobalt, uses
(complexes of 2,6-pyridinecarboxaldehyde diimine or 2,6-diacetylpyridine diimine, **catalyst**; prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)
- IT 9002-88-4P, Polyethylene
(prepn. of mol. wt.-controlled polyolefins by using iron or cobalt complex **catalysts** and hydrogen chain transfer agent)

L56 ANSWER 24 OF 30 HCA COPYRIGHT 2003 ACS on STN

132:36183 Copolymerization of olefins using 2,6-diacetylpyridinebisimine complexes as **catalysts**. Bennett, Alison Margaret Anne; Feldman, Jerald; Mccord, Elizabeth Forrester (E.I. Du Pont de Nemours and Company, USA). PCT Int. Appl. WO 9962967 A2 19991209, 41 pp. DESIGNATED STATES: W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA,

GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
 (English). CODEN: PIXXD2. APPLICATION: WO 1999-US11549 19990526.
 PRIORITY: US 1998-87152 19980529.

GI



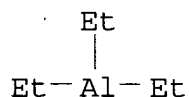
AB Title polymn. is carried out by contacting, at a temp. of -100.degree. to 200.degree., a compd. of formula I or II with one or both of ethylene and propylene, an .alpha.-olefin, and (a) a neutral Lewis acid capable of abstracting anion and alkyl group or a hydride hydrogen and capable of transferring an alkyl or a hydride to metal or (b) a combination of a compd. capable of transferring an alkyl or hydride to metal and neutral Lewis acid capable of abstracting anion, hydride, and alkyl from metal [M = Co, Fe; X = anion; n = 1, 2, 3; R1-5 = H, (substituted) hydrocarbyl, inert functional group; R6, R7 = (substituted) aryl; T1 = hydride, alkyl, anionic ligand into which ethylene or an .alpha.-olefin can insert; Y = neutral ligand capable of being displaced by ethylene or a vacant coordination site; Q = non-coordinating anion]. The polymers produced, some of which are novel, are useful as molding resins.

IT 97-93-8, Triethylaluminum, uses 207129-94-0
 223696-28-4 252252-27-0

(copolymn. of olefins using 2,6-diacylpyridinebisimine complexes as **catalysts**)

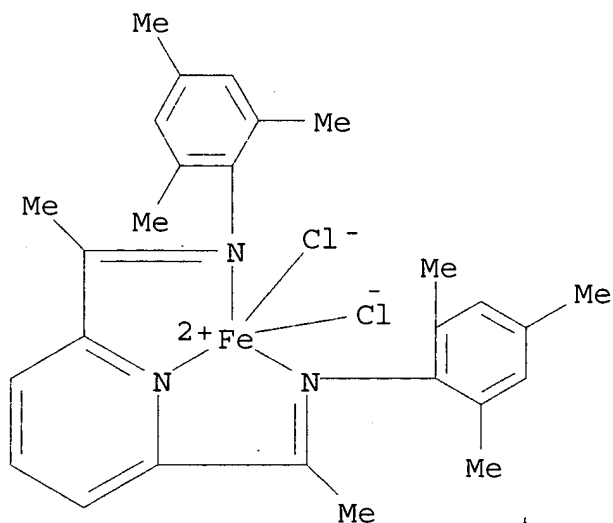
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



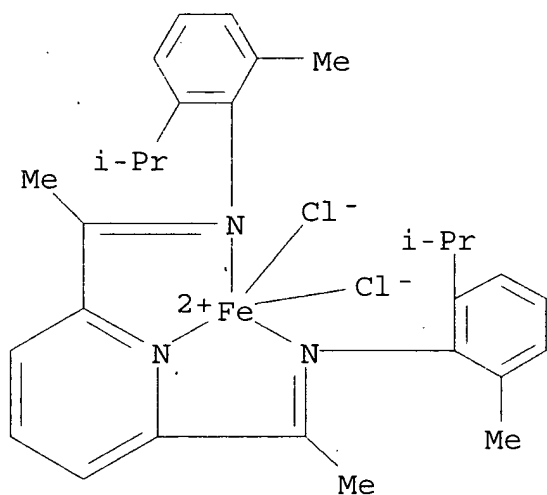
RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



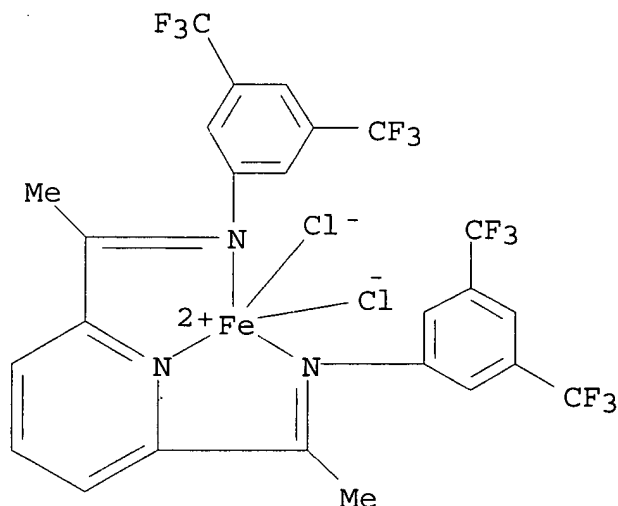
RN 223696-28-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[2-methyl-6-(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13) - (9CI)
(CA INDEX NAME)



RN 252252-27-0 HCA

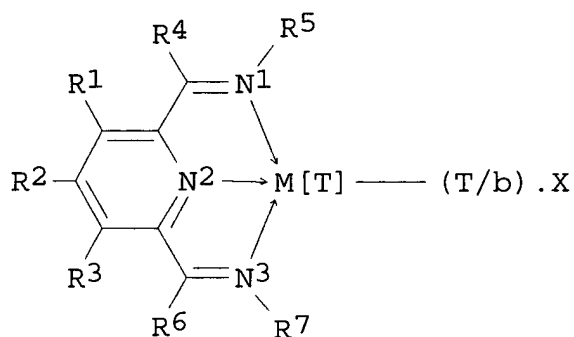
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidene]bis[3,5-bis(trifluoromethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



- IC ICM C08F010-00
ICS C08F210-16; C08F004-26; C08F004-70; C08F004-80
- CC 35-3 (Chemistry of Synthetic High Polymers)
- ST olefin polymn **catalyst** diacylpyridinebisimine complex;
iron diacylpyridinebisimine complex olefin polymn **catalyst**
; cobalt diacylpyridinebisimine complex olefin polymn
catalyst
- IT Aluminoxanes
(Me; copolymn. of olefins using 2,6-diacylpyridinebisimine
complexes as **catalysts**)
- IT Polymerization **catalysts**
(copolymn. of olefins using 2,6-diacylpyridinebisimine complexes
as **catalysts**)
- IT Polyolefins
(copolymn. of olefins using 2,6-diacylpyridinebisimine complexes
as **catalysts**)
- IT Aluminoxanes
(iso-Bu; copolymn. of olefins using 2,6-diacylpyridinebisimine
complexes as **catalysts**)
- IT 97-93-8, Triethylaluminum, uses 146355-12-6,
Tris(pentafluorophenyl) borate 207129-94-0
223696-28-4 252252-27-0
(copolymn. of olefins using 2,6-diacylpyridinebisimine complexes
as **catalysts**)
- IT 25213-02-9P, Ethylene-1-hexene copolymer 25213-96-1P,
Ethylene-4-methyl-1-pentene copolymer 26221-69-2P,
Ethylene-1-pentene copolymer 26221-72-7P, Ethylene-1-heptene
copolymer 26221-73-8P, Ethylene-1-octene copolymer
(copolymn. of olefins using 2,6-diacylpyridinebisimine complexes
as **catalysts**)

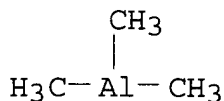
Kimberley, Brian Stephen; Samson, John Norman Reid (BP Chemicals Limited, UK). PCT Int. Appl. WO 9946303 A1 **19990916**, 49 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB715 19990310. PRIORITY: GB 1998-5336 19980312; GB 1998-6106 19980320; GB 1998-6661 19980327; GB 1998-9598 19980507; GB 1998-14496 19980703; GB 1998-20700 19980924.

GI



- AB A **catalyst** for the polymn. of 1-olefins is disclosed comprising I wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X represents an atom or group covalently or ionically bonded to the transition metal M; T is the oxidn. state of the transition metal M and b is the valency of the atom or group X; R1, R2, R3, R4, R5, R6 and R7 are independently selected from hydrogen, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; and when any two or more of R1 - R7 are hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, the two or more can be linked to form one or more cyclic substituents; (2) an activator which is an alkylaluminum compound; and (3) addnl. to (2), a compd. of the formula AlR_3 , where each R is independently C1-C12 alkyl or halo. Preferred compds. (3) include trimethylaluminum (TMA) and triisobutylaluminum (TIBA).
- IT **75-24-1**, Trimethylaluminum **97-93-8**, Triethylaluminum, uses **100-99-2**, uses **1070-00-4**, Tri-n-octylaluminum (catalysts for polymn. of olefins)

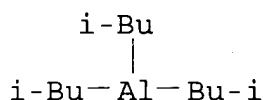
RN 75-24-1 HCA
 CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



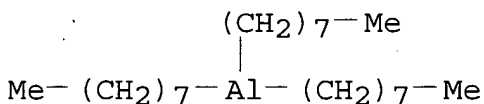
RN 97-93-8 HCA
 CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA
 CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



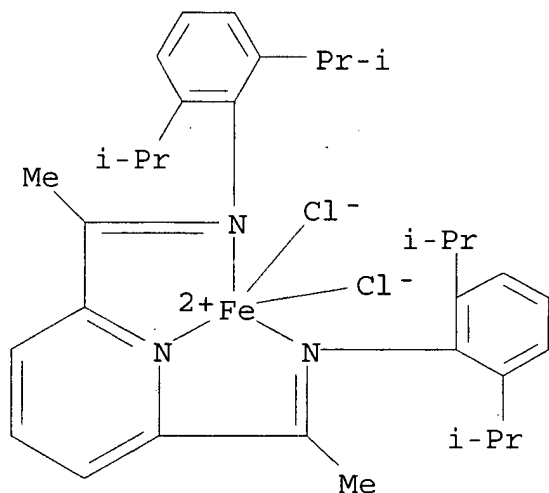
RN 1070-00-4 HCA
 CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 204203-10-1P 207129-93-9P 207129-94-0P
 207129-95-1P 207129-96-2P 207129-97-3P
 210537-35-2P 210768-87-9P 221391-06-6P
 221391-08-8P 221391-12-4P 221391-13-5P
 221391-15-7P 221391-20-4P

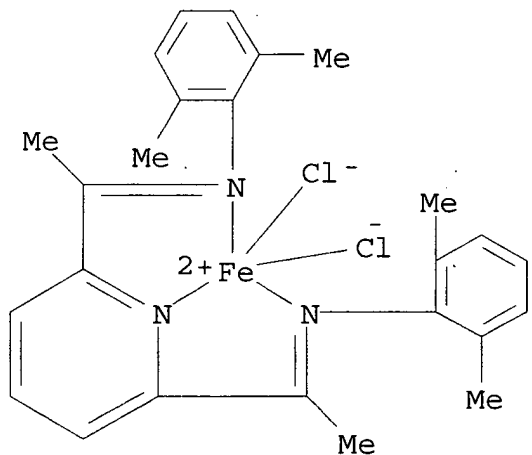
(catalysts for polymn. of olefins)

RN 204203-10-1 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidynel]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



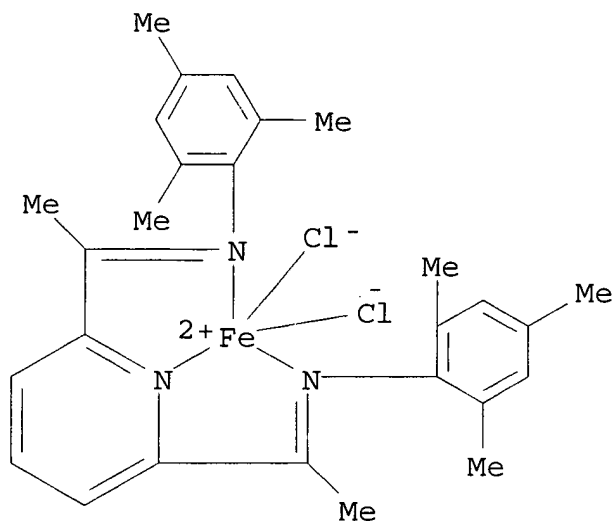
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



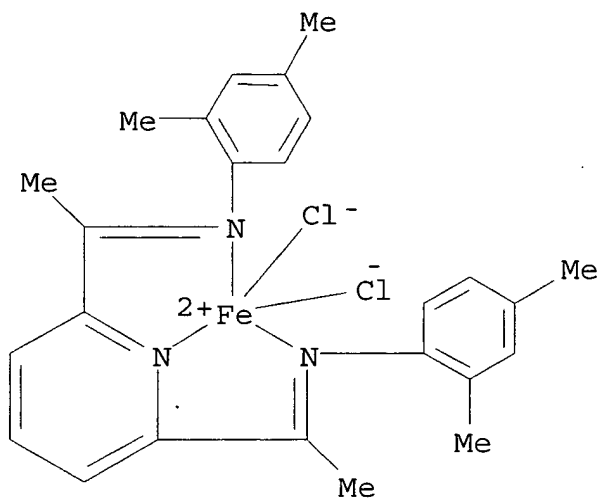
RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



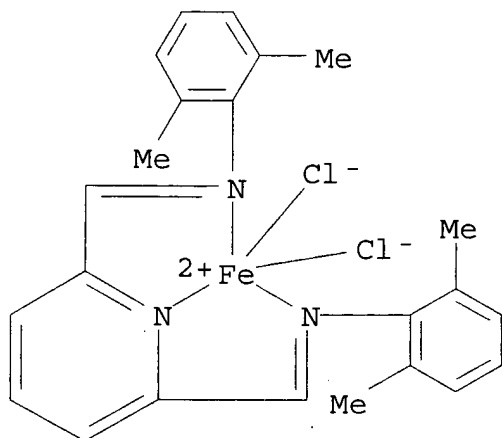
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)diethylidyne]bis[2,4-dimethylbenzenamine-κN]]- (9CI) (CA INDEX NAME)



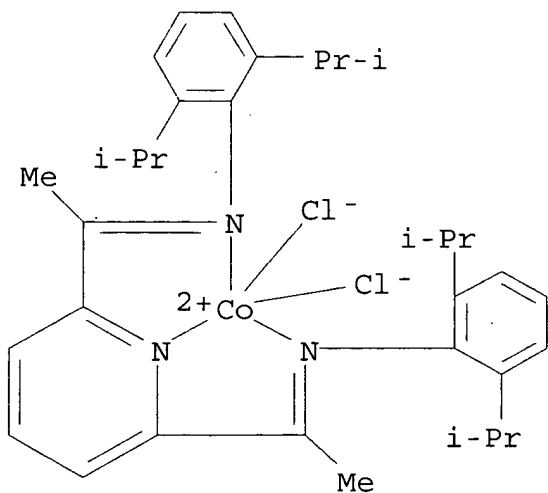
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-κN)dimethylidyne]bis[2,6-dimethylbenzenamine-κN]]- (9CI) (CA INDEX NAME)



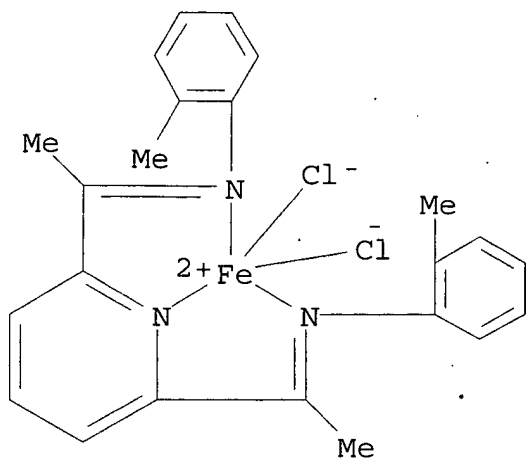
RN 207129-97-3 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



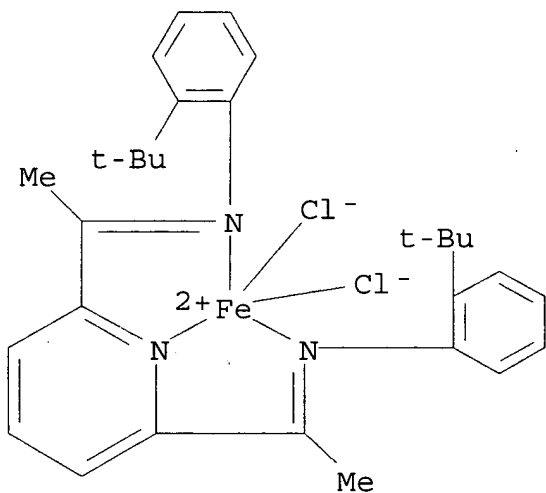
RN 210537-35-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitrilo-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]-(9CI) (CA INDEX NAME)



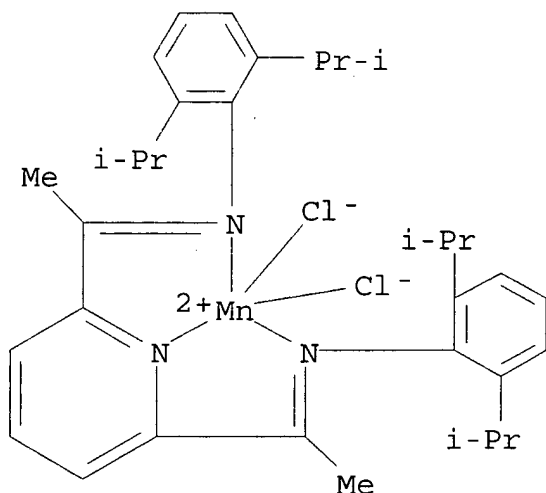
RN 210768-87-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



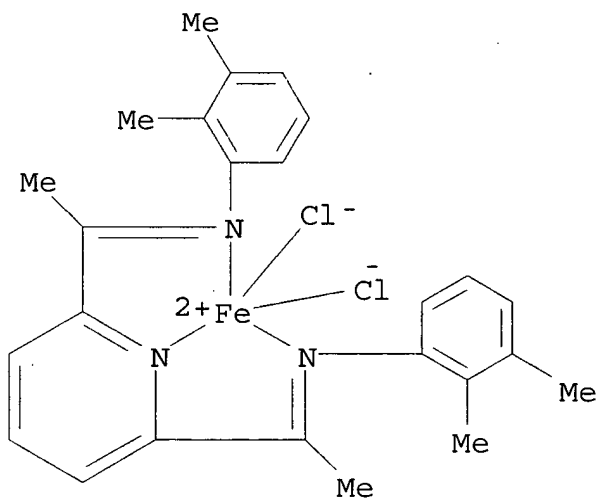
RN 221391-06-6 HCA

CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



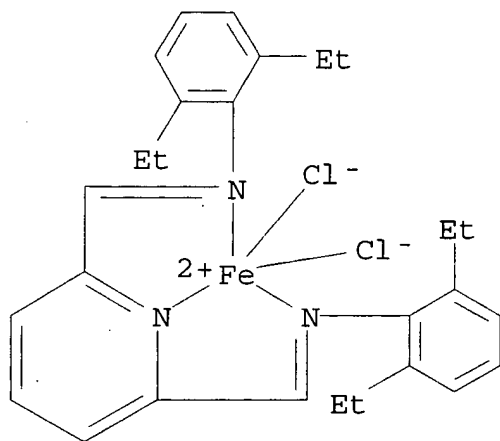
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,3-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



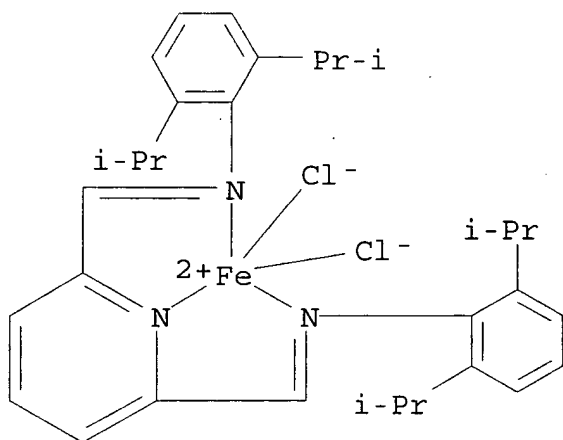
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



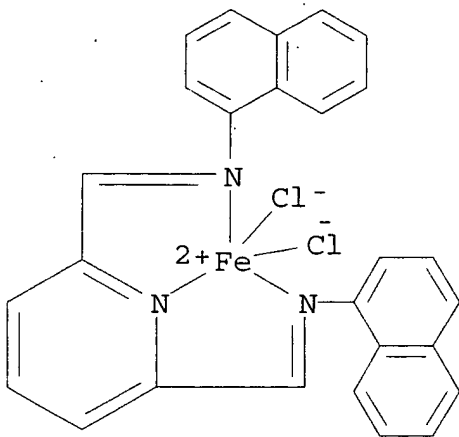
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethyldiyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



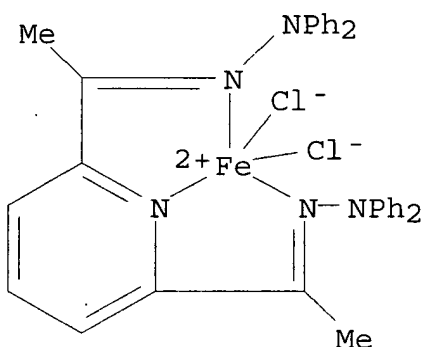
RN 221391-15-7 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethyldiyne]bis[1-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 221391-20-4 HCA

CN Iron, dichloro[1,1'-(2,6-pyridinediyl-.kappa.N)bis[ethanone]bis(diphenylhydrazone-.kappa.N1)]- (9CI) (CA INDEX NAME)



IC ICM C08F004-70

ICS C08F010-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

ST pyridinyl aniline complex **catalyst** olefin polymn

IT Aluminoxanes

(Me; **catalysts** for polymn. of olefins)

IT Polymerization **catalysts**

(**catalysts** for polymn. of olefins)

IT 75-24-1, Trimethylaluminium 96-10-6, Diethylaluminium

chloride, uses 97-93-8, Triethylaluminium, uses

100-99-2, uses 563-43-9, Ethylaluminium dichloride, uses

1070-00-4, Tri-n-octylaluminium

(**catalysts** for polymn. of olefins)

IT 204203-10-1P 207129-93-9P 207129-94-0P

207129-95-1P 207129-96-2P 207129-97-3P

210537-35-2P 210768-87-9P 221391-06-6P

221391-08-8P 221391-12-4P 221391-13-5P

221391-15-7P 221391-20-4P

(catalysts for polymn. of olefins)

IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene 1-hexene copolymer

(catalysts for polymn. of olefins)

IT 204203-14-5P 204203-16-7P 210155-39-8P 221391-09-9P

(catalysts for polymn. of olefins)

IT 87-62-7, 2,6-Dimethyl aniline 88-05-1, 2,4,6-Trimethyl aniline

95-68-1, 2,4-Dimethyl aniline 1129-30-2, 2,6-Diacetylpyridine

24544-04-5, 2,6-Diisopropylaniline

(catalysts for polymn. of olefins)

L56 ANSWER 26 OF 30 HCA COPYRIGHT 2003 ACS on STN

131:214730 **Catalysts** for polymerization of olefins.

Kimberley, Brian Stephen; Maddox, Peter James; Partington, Stephen Roy (BP Chemicals Limited, UK). PCT Int. Appl. WO 9946302 A1

19990916, 50 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU,

AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB,

GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,

SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM,

AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI,

CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE,

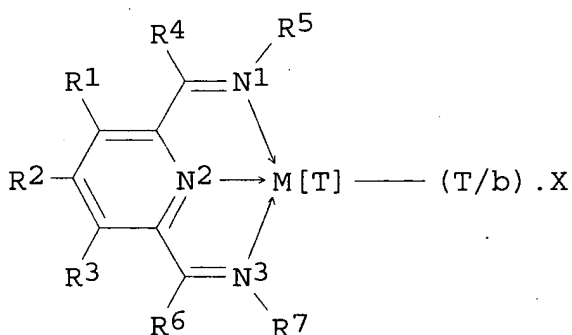
NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO

1999-GB714 19990310. PRIORITY: GB 1998-5336 19980312; GB 1998-6106

19980320; GB 1998-6661 19980327; GB 1998-9598 19980507; GB

1998-14496 19980703; GB 1998-20036 19980916; GB 1998-23983 19981102.

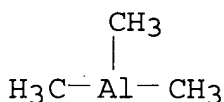
GI



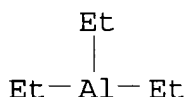
AB A **catalyst** for the polymn. of 1-olefins is disclosed, which comprises (1) a compd. I wherein M is Fe[II], Fe[III], Co[I], Co[II], Co[III], Mn[I], Mn[II], Mn[III], Mn[IV], Ru[II], Ru[III] or Ru[IV]; X represents an atom or group covalently or ionically bonded to the transition metal M; T is the oxidn. state of the transition metal M and b is the valency of the atom or group X; R1, R2, R3, R4, R5, R6 and R7 are independently selected from hydrogen, halogen,

hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; and when any two or more of R1-R7 are hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl, said two or more can be linked to form one or more cyclic substituents; and (2) a further **catalyst**. Copolymers made using the **catalyst** having specific phys. properties are also disclosed.

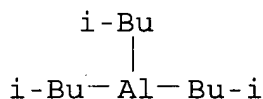
IT 75-24-1, Trimethylaluminium 97-93-8,
Triethylaluminium, uses 100-99-2, uses
(**catalysts** for polymn. of olefins)
RN 75-24-1 HCA
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



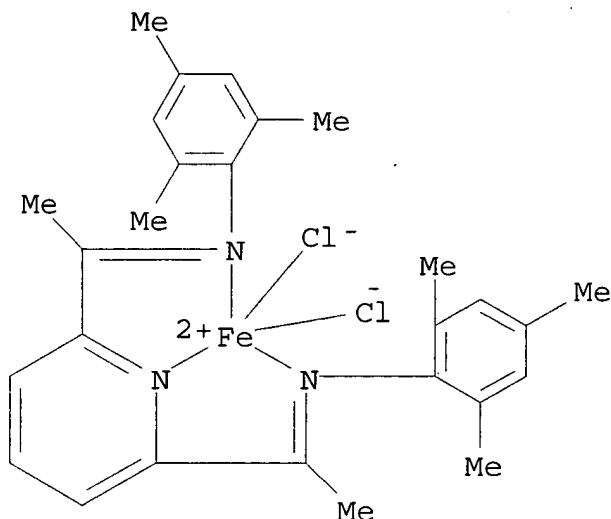
RN 97-93-8 HCA
CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



RN 100-99-2 HCA
CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



IT 207129-94-0P
(**catalysts** for polymn. of olefins)
RN 207129-94-0 HCA
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



- IC ICM C08F004-70
ICS C08F210-16
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST mixed **catalyst** olefin polymn; pyridinyl aniline complex
catalyst olefin polymn
- IT Aluminoxanes
(Me; **catalysts** for polymn. of olefins)
- IT Polymerization **catalysts**
(Ziegler-Natta; **catalysts** for polymn. of olefins)
- IT Polymerization **catalysts**
(bidentate -diimine late transition metal; **catalysts** for polymn. of olefins)
- IT Polymerization **catalysts**
(**catalysts** for polymn. of olefins)
- IT Polymerization **catalysts**
(metallocene; **catalysts** for polymn. of olefins)
- IT 75-24-1, Trimethylaluminium 97-93-8,
Triethylaluminium, uses 100-99-2, uses 507-20-0
999-97-3, Hexamethyldisilazane 1191-47-5, Dibutylmagnesium
3087-37-4 7550-45-0, Titanium tetrachloride, uses 11118-57-3,
Chromium oxide 73364-10-0, Bis(n-butylcyclopentadienyl)zirconium
dichloride
(**catalysts** for polymn. of olefins)
- IT 9002-88-4P, Polyethylene 25213-02-9P, Ethylene 1-hexene copolymer
207129-94-0P
(**catalysts** for polymn. of olefins)
- IT 210155-39-8P
(**catalysts** for polymn. of olefins)
- IT 88-05-1, 2,4,6-Trimethylaniline 1129-30-2, 2,6-Diacetylpyridine
7758-94-3, Iron dichloride
(**catalysts** for polymn. of olefins)

L56 ANSWER 27 OF 30 HCA COPYRIGHT 2003 ACS on STN

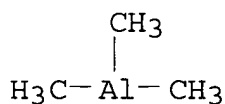
131:170758 Polymerization **catalyst** activator component for olefins and activator preparation. Gibson, Vernon Charles; Mastroianni, Sergio; Stromberg, Staffan (BP Chemicals Limited, UK). PCT Int. Appl. WO 9942492 A1 **19990826**, 22 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB362 19990204. PRIORITY: GB 1998-3492 19980220.

AB A **catalyst** useful for the polymn. of 1-olefins comprises the reaction product of component (A) comprising a compd. R3M (R = hydrocarbyl group; M = Group III metal) and component (B) comprising compd. R1C(:Y)XC(:Z)R2 [I; Y and Z = O or NR5; X = (CR3R4)n or NR6; R1, R2 and R5 = C1-C6 hydrocarbyl or halohydrocarbyl; R3, R4 and R6 = H or C1-C6 hydrocarbyl or halohydrocarbyl; and n = 0 or 1-6] or tautomer; or an Al, B or Ga complex of I. Thus, 61.8 mmol AlMe3 and 3.09 mmol I (R1 = Ph, X = CH, Y,Z = O, M = Al, n = 3) were combined in PhMe and refluxed 4 h to give an activator and this activator and dicyclopentadienyl zirconium dichloride were used in the polymn. of C2H4 to give polyethylene at **catalyst** activity 1650 g/mmol-h-bar.

IT **75-24-1P**, Aluminum trimethyl
(polymn. **catalyst** activator component for olefins)

RN 75-24-1 HCA

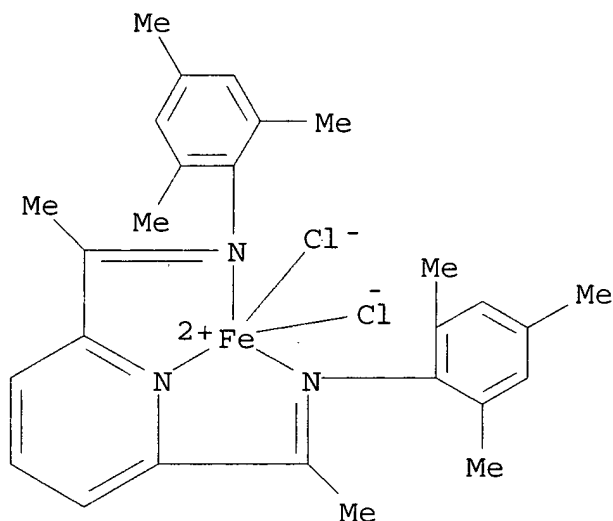
CN Aluminum, trimethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **207129-94-0**
(with polymn. **catalyst** activator component for olefins)

RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)- (9CI) (CA INDEX NAME)



- IC ICM C08F004-60
ICS C08F010-00; C07F005-00; C07F005-06
- CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
- ST aluminum diketone activator **catalyst** polymn; gallium
diketone activator **catalyst** polymn; boron diketone
activator **catalyst** polymn; Ziegler activator
catalyst polymn; Metallocene activator **catalyst**
polymn
- IT Polymerization **catalysts**
(with metal diketone activator; polymn. **catalyst**
activator component for olefins)
- IT 120-46-7, Dibenzoylmethane 123-54-6, 2,4-Pentanedione, reactions
625-77-4, Diacetamide 14092-14-9, 4-Methylamino-3-penten-2-one
239104-14-4 239104-15-5
(in **catalyst** activator component prepn.)
- IT **75-24-1P**, Aluminum trimethyl 13963-57-0P 14319-08-5P
14405-36-8P 19469-60-4P 28124-50-7P 239104-11-1P
239104-12-2P
(polymn. **catalyst** activator component for olefins)
- IT 9002-88-4P, Polyethylene
(polymn. **catalyst** activator component for olefins)
- IT 1291-32-3, Dicyclopentadienyl zirconium dichloride
207129-94-0
(with polymn. **catalyst** activator component for olefins)

L56 ANSWER 28 OF 30 HCA COPYRIGHT 2003 ACS on STN

131:59249 **Catalyst** component, **catalyst** and process
for polymerization of ethylenically unsaturated monomer. Tohi,
Yasushi; Makio, Haruyuki; Fujita, Terunori; Tsutsui, Toshiyuki
(Mitsui Chemicals, Inc., Japan). Eur. Pat. Appl. EP 924223 A2
19990623, 160 pp. DESIGNATED STATES: R: AT, BE, CH, DE,
DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI,

RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-124292
19981221. PRIORITY: JP 1997-353746 19971222; JP 1998-303095
19981023.

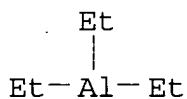
AB The invention relates to a **catalyst** component which can provide, in combination with a transition metal compd., a **catalyst** for ethylenically unsatd. monomer polymn., a **catalyst** comprising the **catalyst** component and a transition metal compd., and a process for ethylenically unsatd. monomer polymn. using the **catalyst**. The **catalyst** component comprises a compd. obtained by the reaction of, in any order, (i) a compd. comprising a metal of Group 13 of the periodic table; (ii) a compd. capable of reacting with the compd. (i) to be bonded to two or more of the Group 13 metal; (iii) a compd. capable of reacting the compd. (i); and optionally (iv) a hydrocarbon compd. or the like.

IT 97-93-8, Triethylaluminum, uses 100-99-2,
Triisobutylaluminum, uses 1070-00-4, Tri-n-octylaluminum
204203-10-1

(**catalyst** component, **catalyst** and process for
polymn. of ethylenically unsatd. monomer)

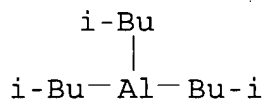
RN 97-93-8 HCA

CN Aluminum, triethyl- (8CI, 9CI) (CA INDEX NAME)



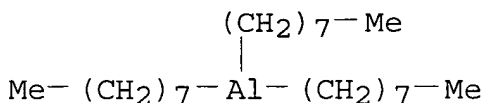
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



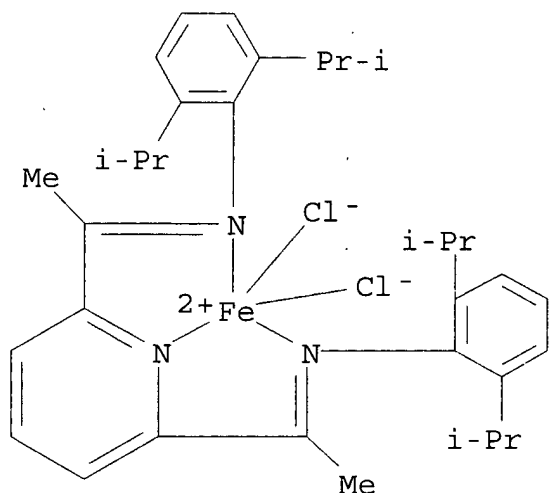
RN 1070-00-4 HCA

CN Aluminum, trioctyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



- IC ICM C08F004-602
ICS C08F004-603; C08F010-00
- CC 35-3 (Chemistry of Synthetic High Polymers)
- ST transition metal compd polymn **catalyst** olefin; Group 13
compd polymn **catalyst** olefin; ethylene polymn
catalyst; isobutylaluminum polymn **catalyst** olefin;
zirconium coordination compd polymn **catalyst** olefin;
aluminum polymn **catalyst** olefin; bromofluorobenzene polymn
catalyst olefin; lithium polymn **catalyst** olefin;
phenylchloromethane polymn **catalyst** olefin
- IT Polymerization **catalysts**
(**catalyst** component, **catalyst** and process for
polymn. of ethylenically unsatd. monomer)
- IT Group IIIA element compounds
Transition metal compounds
(**catalyst** component, **catalyst** and process for
polymn. of ethylenically unsatd. monomer)
- IT Polyolefins
(**catalyst** component, **catalyst** and process for
polymn. of ethylenically unsatd. monomer)
- IT 76-83-5, Triphenylchloromethane 96-10-6, Diethylaluminum chloride,
uses 97-93-8, Triethylaluminum, uses 100-99-2,
Triisobutylaluminum, uses 109-72-8, n-Butyllithium, uses
344-04-7, Bromopentafluorobenzene 363-72-4, Pentafluorobenzene
602-94-8, Pentafluorobenzoic acid 771-60-8, 2,3,4,5,6-
Pentafluoroaniline 771-61-9, Pentafluorophenol 947-42-2,
Diphenylsilanediol 1070-00-4, Tri-n-octylaluminum
7727-15-3, Aluminum tribromide 75171-01-6 111215-59-9
112243-78-4, Ethylenebis(indenyl)zirconium dichloride 153882-67-8,
Rac-dimethylsilylenebis(2-methyl-4-phenylindenyl)zirconium
dichloride 204203-10-1 215050-65-0 215050-66-1
215050-92-3 215051-20-0
(**catalyst** component, **catalyst** and process for

polymn. of ethylenically unsatd. monomer)
 IT 9002-88-4P, Polyethylene 9003-07-0P, Polypropylene 9010-79-1P,
 Ethylene-propylene copolymer 26221-73-8P, Ethylene-octene
 copolymer
 (catalyst component, catalyst and process for
 polymn. of ethylenically unsatd. monomer)

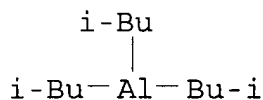
L56 ANSWER 29 OF 30 HCA COPYRIGHT 2003 ACS on STN
 130:282492 **Catalyst** component for olefin polymerization and
 polymerization method. Doi, Yasushi (Mitsui Chemicals Inc., Japan).
 Jpn. Kokai Tokkyo Koho JP 11080225 A2 19990326 Heisei,
 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-196295
 19980710. PRIORITY: JP 1997-185556 19970710.

AB The title **catalyst** components comprise A⁺M⁻, where A⁺ is a
 cation and M⁻ is compd. anion which has a tetravalent arom. ring and
 a group 13 metal atom. Ethylene was polymd. using
 triphenylcarbenium bis(bis(2,3,4,5-tetrafluorophenyl)dimethylsilyl)b
 orate, ethylenebis(indenyl)zirconium dichloride, and
 triisobutylaluminium **catalysts**.

IT 100-99-2, uses 204203-10-1
 (catalyst component for olefin polymn. and polymn.
 method)

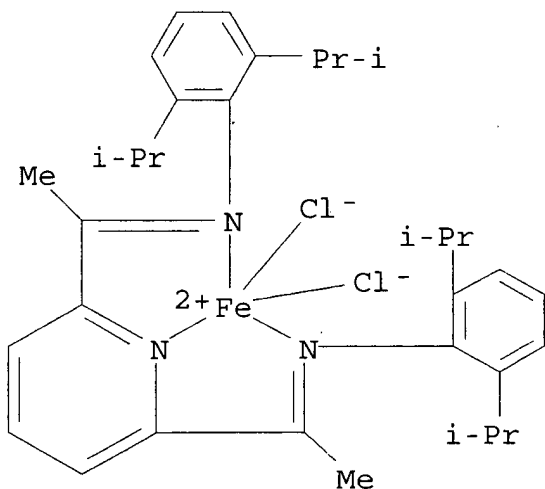
RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



RN 204203-10-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-
 bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA
 INDEX NAME)

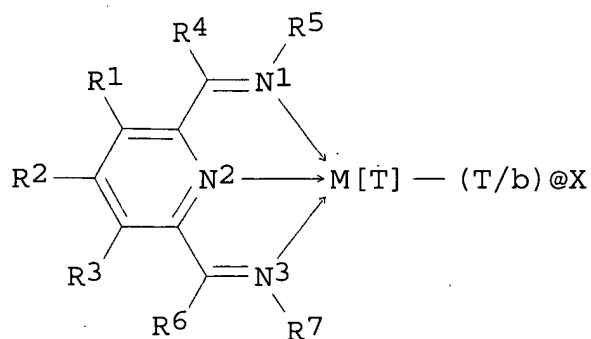


IC ICM C08F004-605
ICS C08F010-00
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
ST metallocene **catalyst** olefin polymn; tetravalent arom ring
metal complex anion
IT Polymerization **catalysts**
(metallocene; **catalyst** component for olefin polymn. and
polymn. method)
IT 100-99-2, uses 75170-97-7 112243-78-4, Ethylenebis
(indenyl) zirconium dichloride 153882-67-8 **204203-10-1**
215050-65-0 215050-66-1
(**catalyst** component for olefin polymn. and polymn.
method)
IT 222625-42-5P 222625-45-8P
(**catalyst** component for olefin polymn. and polymn.
method)
IT 9002-88-4P
(**catalyst** component for olefin polymn. and polymn.
method)
IT 17167-02-1P 222625-48-1P
(**catalyst** component for olefin polymn. and polymn.
method)
IT 75-78-5 76-83-5, Triphenyl chloro-methane 121-69-7, N,
N-Dimethylaniline, reactions 598-30-1, sec-Butyl-lithium
1074-91-5, 1-Bromo-2, 3, 4,5-tetrafluorobenzene
(**catalyst** component for olefin polymn. and polymn.
method)

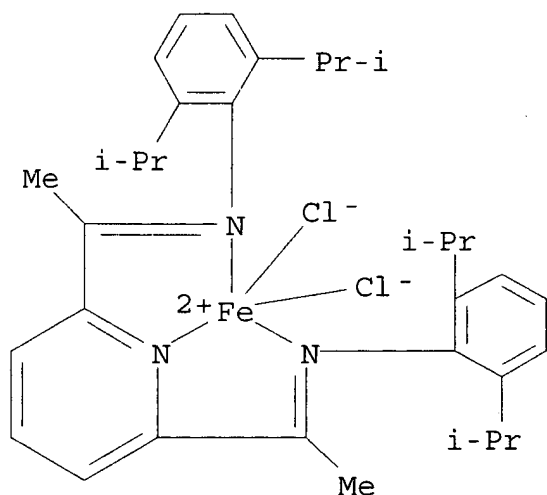
L56 ANSWER 30 OF 30 HCA COPYRIGHT 2003 ACS on STN

130:252793 Nitrogen-containing transition metal polymerization
catalysts for olefins. Britovsek, George Johan Peter;
Dorer, Birgit Angelika; Gibson, Vernon Charles; Kimberley, Brian
Stephen; Solan, Gregory Adam (BP Chemicals Limited, UK). PCT Int.
Appl. WO 9912981 A1 **19990318**, 78 pp. DESIGNATED STATES:
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL,
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ,
VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ,
CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU,
MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
APPLICATION: WO 1998-GB2638 19980902. PRIORITY: GB 1997-18775
19970905; GB 1997-22104 19971021; GB 1998-5336 19980312; GB
1998-6106 19980320; GB 1998-6661 19980327; GB 1998-9598 19980507.

GI

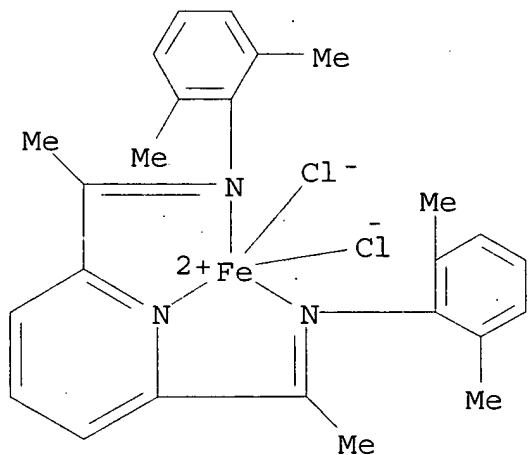


- AB The title N-contg. transition metal compds. are based on metals M of Fe[III], Fe[III], Ru[II], Ru[III] or Ru[IV] of I (X = group covalently or ionically bonded to the transition metal M; T = the oxidn. state of the transition metal M and b = valency of the atom or group X; R1-4 and R6 are = H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl; R5, R7 = H, halogen, hydrocarbyl, substituted hydrocarbyl, heterohydrocarbyl or substituted heterohydrocarbyl), optionally supported, and a co-catalyst. Intermediate A [2,6-diacetylpyridinebis(2,6-diisopropylanil)] was prepd. by the reaction of 2,6-diacetylpyridine and 2,6-diisopropylaniline, then reacted with ferrous chloride in butanol to provide an example catalyst. Co-catalyst methylaluminoxane (400 mequiv) was used with the above iron catalyst complex (0.05 mmol) in the polymn. of C₂H₄ to give 0.78 g polyethylene and catalyst activity 480 g/mmol-h-bar.
- IT 204203-10-1P 207129-93-9P 207129-94-0P
 207129-95-1P 207129-96-2P 207129-97-3P
 210537-35-2P 210768-87-9P 221391-06-6P
 221391-08-8P 221391-12-4P 221391-13-5P
 221391-15-7P 221391-16-8P 221391-18-0P
 221391-20-4P 221391-22-6P
 (manuf. of nitrogen-contg. transition metal polymn. catalysts for olefins)
- RN 204203-10-1 HCA
- CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



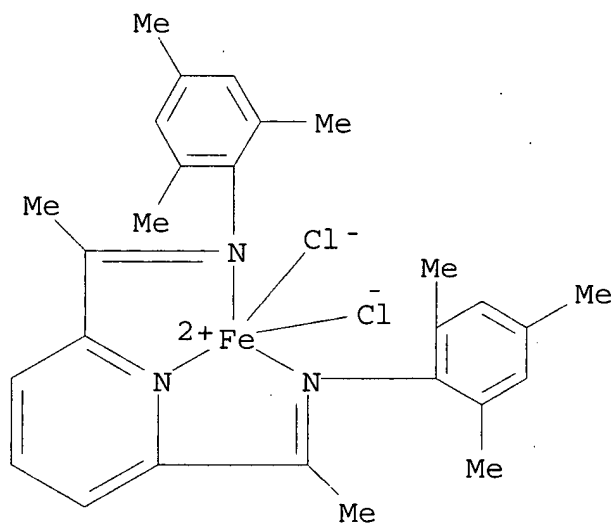
RN 207129-93-9 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]-, (SP-5-13)-(9CI) (CA INDEX NAME)



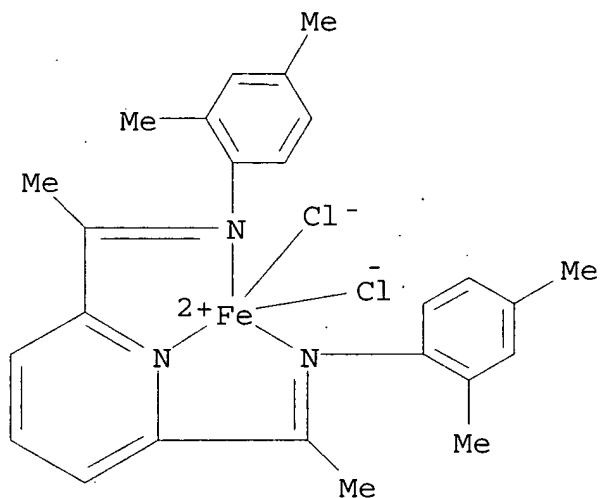
RN 207129-94-0 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (TB-5-22)-(9CI) (CA INDEX NAME)



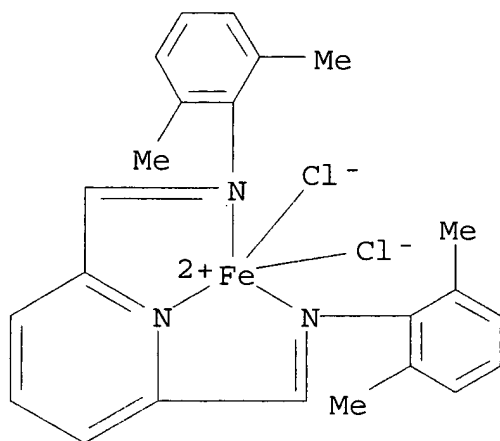
RN 207129-95-1 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,4-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



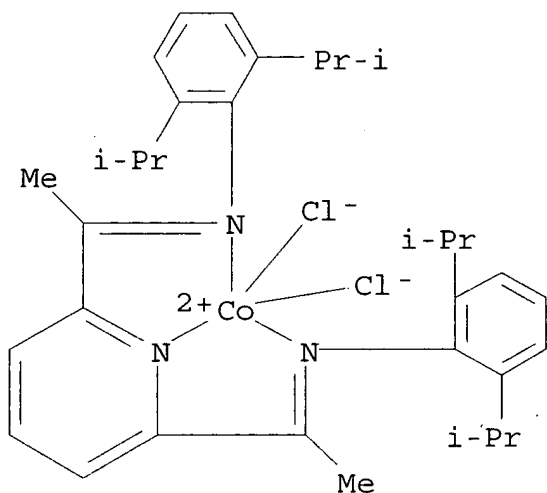
RN 207129-96-2 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



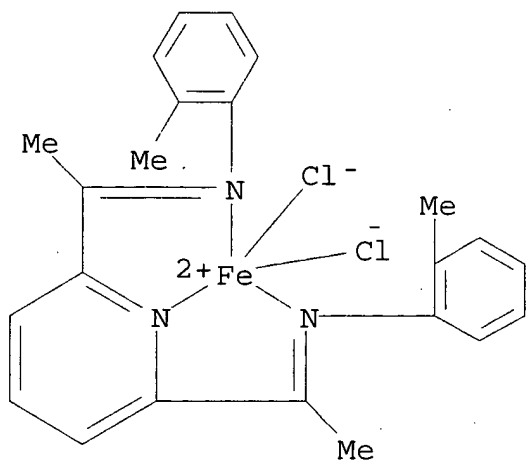
RN 207129-97-3 HCA

CN Cobalt, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)

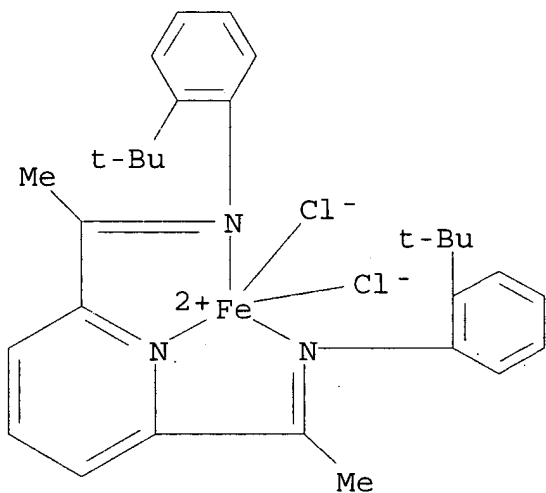


RN 210537-35-2 HCA

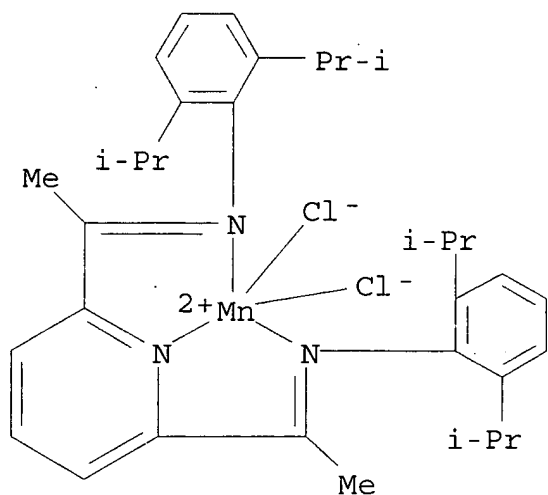
CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)bis(ethylidynenitril o-.kappa.N)]bis[2-methylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



RN 210768-87-9 HCA
 CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2-(1,1-dimethylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)

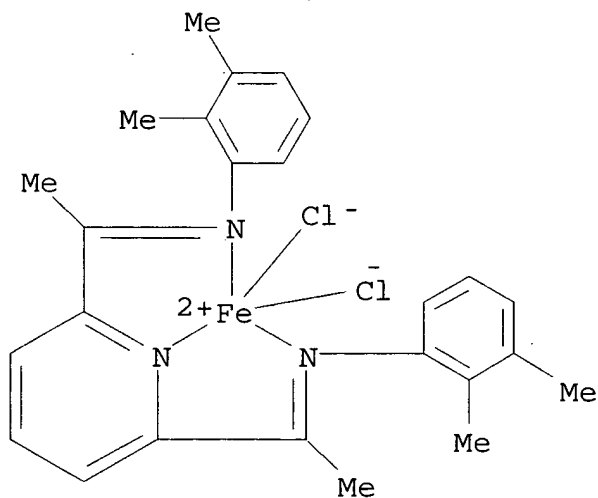


RN 221391-06-6 HCA
 CN Manganese, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]-, (SP-5-13)- (9CI) (CA INDEX NAME)



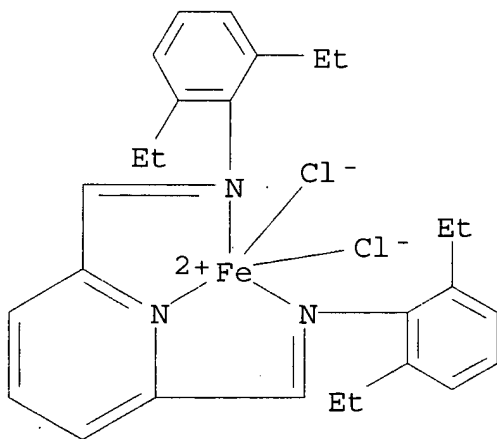
RN 221391-08-8 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[2,3-dimethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



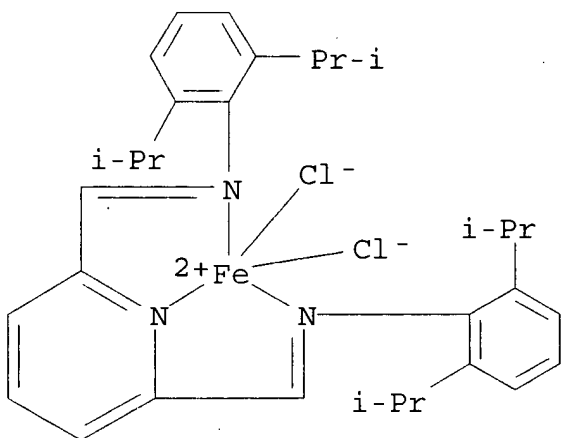
RN 221391-12-4 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-diethylbenzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



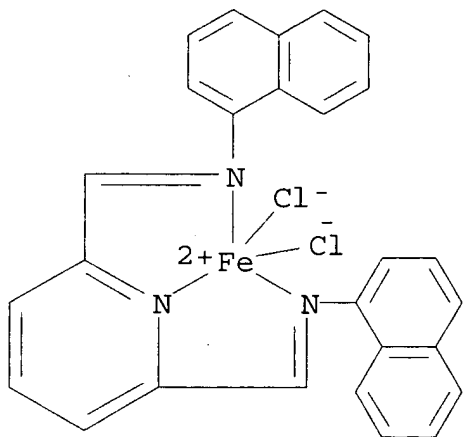
RN 221391-13-5 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[2,6-bis(1-methylethyl)benzenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



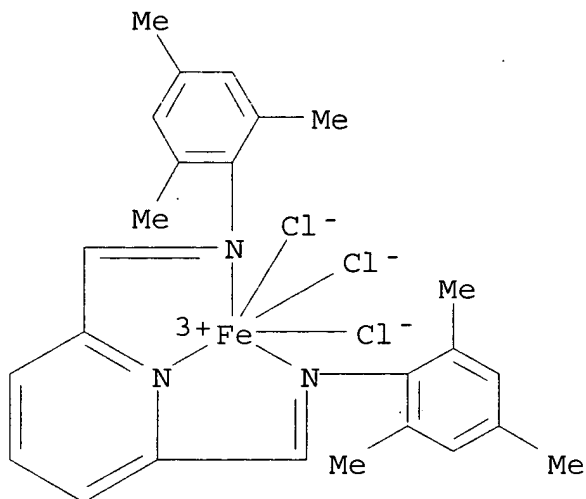
RN 221391-15-7 HCA

CN Iron, dichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidyne]bis[1-isopropyl-2,6-naphthalenamine-.kappa.N]]- (9CI) (CA INDEX NAME)



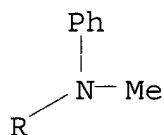
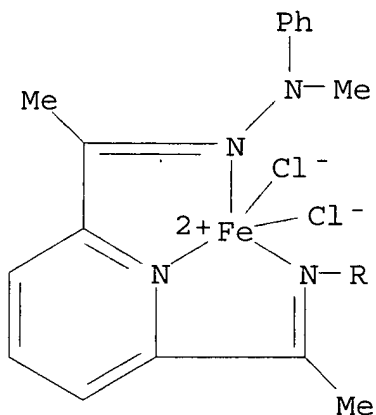
RN 221391-16-8 HCA

CN Iron, trichloro[N,N'-[(2,6-pyridinediyl-.kappa.N)dimethylidene]bis[2,4,6-trimethylbenzenamine-.kappa.N]]-, (OC-6-31)- (9CI) (CA INDEX NAME)

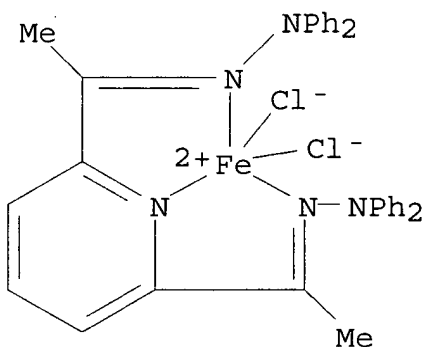


RN 221391-18-0 HCA

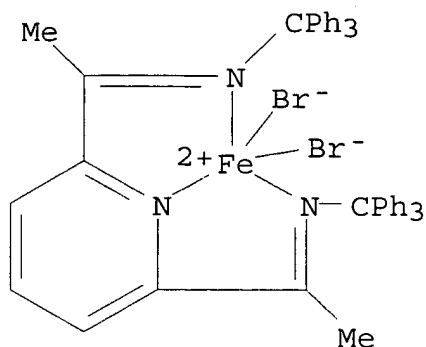
CN Iron, dichloro[1,1'-(2,6-pyridinediyl-.kappa.N)bis[ethanone]bis(methylphenylhydrazone-.kappa.N1)]- (9CI) (CA INDEX NAME)



RN 221391-20-4 HCA
 CN Iron, dichloro[1,1'-(2,6-pyridinediyl-.kappa.N)bis[ethanone]bis(diphenylhydrazone-.kappa.N1)]- (9CI) (CA INDEX NAME)



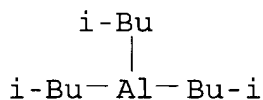
RN 221391-22-6 HCA
 CN Iron, dibromo[N,N'-[(2,6-pyridinediyl-.kappa.N)diethylidyne]bis[.alpha.ha.,.alpha.-diphenylbenzenemethanamine-.kappa.N]]- (9CI) (CA INDEX NAME)



IT 100-99-2, Triisobutylaluminum, uses
(scavenger; manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)

RN 100-99-2 HCA

CN Aluminum, tris(2-methylpropyl)- (9CI) (CA INDEX NAME)



IC ICM C08F004-70

ICS C07D213-53; C07F015-02; C07F015-06; C08F010-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67, 78

ST iron transition metal complex polymn **catalyst** olefin;
organoaluminum cocatalyst polymn olefin; diacetylpyridine
diisopropylanil iron chloride **catalyst**; polyethylene manuf
iron complex **catalyst**

IT Aluminoxanes

(Me, cocatalyst; manuf. of nitrogen-contg. transition metal
polymn. **catalysts** for olefins)

IT Polymerization **catalysts**

(Ziegler-Natta, mixed **catalysts** with iron complex;
manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)

IT Polymerization **catalysts**

(iron, ruthenium, cobalt, manganese; manuf. of nitrogen-contg.
transition metal polymn. **catalysts** for olefins)

IT 960-71-4, Triphenylboron 1109-15-5 79060-88-1, Sodium
tetrakis[(bis-3,5-trifluoromethyl)phenyl]borate 117802-41-2,
Trityltetra(phenyl)borate 118573-45-8,

Dimethylphenylammoniumtetra(phenyl)borate 118612-00-3

136040-19-2, Trityl tetrakis(pentafluorophenyl)borate 139362-04-2
(cocatalyst; manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)

IT 13170-43-9, Trimethylsilylmethyl magnesium chloride

(manuf. of nitrogen-contg. transition metal polymn.)

catalysts for olefins)
IT 204203-10-1P 207129-93-9P 207129-94-0P
207129-95-1P 207129-96-2P 207129-97-3P
210537-35-2P 210768-87-9P 221391-06-6P
221391-08-8P 221391-12-4P 221391-13-5P
221391-15-7P 221391-16-8P 221391-18-0P
221391-20-4P 221391-22-6P
(manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)
IT 9002-88-4P 9003-07-0P 25213-02-9P, Ethylene-1-hexene copolymer
(manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)
IT 204203-14-5P 204203-16-7P 204203-17-8P 210155-39-8P
210155-42-3P 210537-32-9P 219729-70-1P 221391-07-7P
221391-09-9P 221391-10-2P 221391-11-3P 221391-14-6P
221391-17-9P 221391-19-1P 221391-21-5P
(manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)
IT 87-59-2, 2,3-Dimethylaniline 87-62-7, 2,6-Dimethylaniline
88-05-1, 2,4,6-Trimethylaniline 95-53-4, 2-Methylaniline,
reactions 95-68-1, 2,4-Dimethylaniline 134-32-7,
1-Aminonaphthalene 530-50-7, 1,1-Diphenylhydrazine 579-66-8
618-40-6, 1-Methyl-1-phenylhydrazine 1129-30-2,
2,6-Diacetylpyridine 1195-59-1, 2,6-Pyridinedimethanol
5431-44-7, 2,6-Pyridinedicarboxaldehyde 5824-40-8,
Triphenylmethylaniline 6310-21-0, 2-tert-Butylaniline 7646-79-9,
Cobalt chloride CoCl_2 , reactions 7758-94-3, Iron chloride FeCl_2
7773-01-5, Manganese chloride 24544-04-5, 2,6-Diisopropylaniline
(manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)
IT 121-69-7, N,N-Dimethylaniline, uses
(promoter; manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)
IT 100-99-2, Triisobutylaluminum, uses
(scavenger; manuf. of nitrogen-contg. transition metal polymn.
catalysts for olefins)